PROCEEDINGS

of the

SEMINAR

ON

NATIVE PARTICIPATION IN MINING

March 18 and 19, 1987

Yellowknife, N.W.T.

Indian and Northern Affairs Canada
Affaires indiennes et du Nord Canada
Geology Division
Yellowknife, NWT

EGS 1987-6

FOREWORD

The Northern Mineral Policy issued in December, 1986, commits Indian and Northern Affairs Canada to improving communications between northerners, the mining industry and the government. The Northern Affairs Program, in keeping with this committment, organized a two-day "Seminar on Native Participation in Mining" on March 18 and 19, 1987 in Yellowknife, NWT. The Dene Nation and Metis Association of the NWT, the five Regional Councils and the 22 Native Development Corporations of the western NWT were invited to send representatives to the seminar to discuss, with representatives of the mining industry and the federal and territorial governments, the basic features of mineral exploration and development in the western NWT. The papers presented and the ensuing discussions were recorded, transcribed and then compiled into this volume.

The basic concept of the seminar originated with Dr.J. Lazarovich, Director of the Mining Management and Infrastructure Directorate of the Natural Resources and Economic Development Branch of INAC in Ottawa. The Directorate also funded the seminar. The organization of the program and arrangements for the speakers and delegates were done by P.J. Laporte and E.D. Bigg under the direction of G.V. Patenaude, Director of the Minerals and Economic Analysis Branch of the Northern Affairs Program in Yellowknife.

The organizers are grateful for the support and assistance of all the speakers and participants and especially the NWT Chamber of Mines and its General Manager, Mr.D. Nutter who agreed, on very short notice, to be the chairman/moderator for the sessions. His help is greatly appreciated. Peter Hart and Wayne Wagner of the Government of the Northwest Territories Energy Mines and Resources Secretariat also helped with their advice on the program.

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WELCOMING ADDRESS

Honourable T. Butters
Minister responsible for the Energy, Mines and Resources Secretariat
Government of the Northwest Territories

G. PATENAUDE: I'm Gilles Patenaude from Northern Affairs and I would like to introduce Dave Nutter, who is the General Manager of the Chamber of Mines in the Northwest Territories. He represents all the major mining companies that operate in the North and the Chamber of Mines, and has accepted to be the moderator of this seminar. I sincerely hope you will enjoy it and I'll pass this on to Dave.

D. NUTTER: Good morning, thank you, Gilles. I think in the interest of the needs of our first speaker, the Hon. Tom Butters, we will start immediately with Mr. Butters and, following his introductory address, we will then get into a brief welcoming address from myself and a bit of discussion on the format of the next two days.

Mr. Butters, as all of us are aware, is Minister of Finance and also Minister responsible for the Energy, Mines and Resources Secretariat of the Territorial Government and we welcome him here today just to give us some introductory remarks to this two day seminar. Mr. Butters.

T. BUTTERS: Delegates and observers. I thank you very much for the brief introduction Mr. Nutter. While I do have the title of Minister responsible for Energy, Mines and Resources, I think everybody knows that as a government we have no mines; we have a legislation on mining safety. We have little resources and after the last five weeks in the House, I have no energy. I notice I've got 15 or 20 minutes so it's a little bit more than a welcome.

Bill McKnight, and I'm not dropping names here because I think Bill McKnight is a very personable man and, as a farmer it's very easy to call him by his first name, and I believe that we are very fortunate in the Northwest Territories and the Yukon that we have Bill McKnight as the Minister responsible for these particular territories. As I say, no one knows better than a farmer that if you are going to take things out of the land, you've got to put something back into it as well. But Bill McKnight has asked me to welcome you and I guess the best thing I can do is read his comments in the letter, which I thought I had in front of me.

He did express his regret that he was not able to be here with you and I believe him when he says that, and he wishes you all the, well I do have it now. He said, " I would ask that you convey to the delegates my regards and my wishes for an enjoyable and constructive seminar", and he indicates that previous commitments do not allow him to attend.

When I was walking over to the building, I decided that rather than read to you the very excellent opening address that my officials have made for me, I won't give it to you, I'll give it to Dave Nutter, just in case Bill McKnight ever reads the record he will know that I did say something on his behalf and something kind of official.

But I'd like to talk, because the delegates here are practical people. The people from the communities come from the land and I'm quite sure they don't want to hear regurgitated words from my officials. I think they'd like to hear me comment on what I may know or feel about mining.

I came into the North many, many years ago drawn by stories of the Headless Valley. I never have been to the Nahanni and I intend to visit the Nahanni before I die. But it was the stories of the Headless Valley that brought me into the Yukon. I guess I didn't know where the Northwest Territories was and I wound up in the Yukon. I prospected in the Yukon for two or three years. I found a small creek, and I found this creek because sitting down in a tavern one night I heard the story of how the Indians would take the gold out of this creek in their frying pans. So I went to the creek and, sure enough, there was gold in it and just below the creek about 100 feet down the mountain were drying racks where moose flesh had been dried in the summertime.

Five years ago I went back. Those drying racks have collapsed, so the people are no longer using the mountains. But when I went back to look at the workings that I had been involved in so many years ago, there were 13 moose on the hillsides all around that little valley and they are still there as far as I know.

I would also like to say that I've worked in mines. I've worked underground with Cominco and I found mining a demanding, but a very attractive profession, and I came to admire the men I worked with and I could have easily I think become a miner.

When I went into the Keewatin I was very intrigued there because I met Andy Easton at the North Rankin Nickel Mine and I was really extremely moved by Andy Easton. His topkick, his top boss was an Inuit man named Sineektuk, and together they ran that mine. The North Rankin Nickel Mine, as I remember, was operated in the main by native people and native people who, on their weekends would go out to practise their traditional way of life at the flow edge. But here was a mine some 25 years ago, as I say, being operated by one southerner who had a real knowledge of how to work with native people, and by native people.

When I came over to the west in the sixties, I was surprised that so few native people in the Mackenzie were involved in the mining industry. I see Rod Douglas there, I mentioned this to Rod years ago, you know wondering, when we are looking at training in schools, why native people in the west never became involved in the mining industry. I know I asked one fellow in a small community and he said that he always wanted the blue sky over his head and not a wall of rock. Well, maybe that is the case, but for some reason, we've never seen native people get involved with the mining industry and I say this troubles me.

Maybe this seminar will examine this question. It's kind of fitting that this seminar is happening in this community, Yellowknife. Yellowknife, you know by definition, is two gold mines separated by three levels of government, as the description goes.

It's interesting to note too that Yellowknife comes from the white man's perception of an Indian tribe that came to use metals of the country. They use the copper of the country and this town and our beginnings relate back to native use of northern minerals. I believe that there can be some beginnings made here in the next two days, and those beginnings I think might be taken from a concept that the Hudson Bay put in place many, many years ago. It was called the Wintering Partners Concept, and the way that worked, as far as I know, is that one or two trappers would bring together the resources they had and together work the land over the winter to mutually benefit and share from their activities. One man may have had a cabin, another man may have had gear and where alone they could not do it, together they would reap the harvest of the wilds from their winter's work.

And I'm wondering maybe that concept and that possibility could be adopted today. Maybe instead of a wintering partners, a finding partners, or a founding partners, which involves both native people and the industry, because both of those elements are longtime residents of the Northwest Territories, I think the mining people, although they sit here so smug and smart, will admit that the finds that have been made in the Northwest Territories haven't usually been found by geiger counters or seismic magnetometers or whatever they have, they've been found by serendipity and serendipity, in its simplest sense, is when somebody goes off in the bush with a piece of toilet paper and finds a mine. Or you stop your canoe because the winds are too rough and you camp and you find a mine. And I think a lot of the big mines in the Northwest Territories have been found that way.

What I guess I'm saying is that native people have a lot to offer the mining industry, and the mining industry has a lot to offer native people. It's very encouraging to see the representatives of the development corporations here today. I'm sorry I will not hear Charlie Charlo speak because I know that things are going on in that particular area. Things are happening, but I feel that there's an awful lot more to be done and it's to be done with people in communities who travel this land, summer in and winter out, and have seen and found minerals but have not realized what they have found.

There must be some way in which to see that founding partnership develop between native people and the mining industry and I'm hoping that maybe it will come out of this meeting here this morning. You all know that the mining industry is the second industry in the Northwest Territories, if you count government an industry, but in terms of jobs, it produces 15 per cent of the total jobs in the Northwest Territories. But the difference between the mining industry is that the mining industry turns rock into dollars. Government doesn't do that nor does it make work. Governments only make paper work. You can't eat paper, you can't wear paper, and you can't put paper into your skidoo or your kicker.

So I think that a great deal can be accomplished with your exchanges here in the next two days and I would caution delegates from the communities, don't let that agenda scare you. If you were going to the University of Alberta and you had three years time, they would give you a mining degree after you'd finished it. I know you've only got two days, but don't let the technical talk bother you. Stop these guys and ask them questions and get down to the basics from where you operate. I think you can communicate. I think you can rise from this meeting in two days with an understanding and an opportunity for productivity that we haven't seen occur in the territories before. So I wish you good discussions and a good seminar. Thanks very much.

B. NUTTER: Thank you Mr. Butters. It's a very encouraging message I think from the Minister and it is up to us to see if we can follow through on some of what he has said to us today, and see if we can make progress.

INTRODUCTION

D. Nutter
Chairman / Moderator

I'll start off just with some brief introductory remarks, and I was going to close these remarks by saying, please bear with me, that I'm an amateur at this sitting at the head, but I guess I'll start off by saying that. And I think it's important that we all try to work together and that we all participate around the table and I'll do my best to encourage people to participate but, again, as Mr. Butters said, don't feel shy. Do speak up, do ask questions, do make your feelings known and hopefully at the end of two days we will come away from this feeling that we have invested wisely of our time in these two days.

Just to give a brief background on my feeling about the two day seminar and what I understand is the objective in calling all of us together. It has been recognized that there is limited participation, as Mr. Butters has already said, of aboriginal people in the mining industry. And while native people comprise a significant portion of the northern population and mining is the major economic activity in the North, this level of participation is disproportionately small, either looking at direct employment or via third party business relationships.

There are many reasons for this and hopefully over the next two days a number of the barriers which are responsible for this low level participation; both the real barriers and those that are just perceived by people, will be recognized and acknowledged. And, while we can't solve all the problems, through discussion, frank discussion, we can come to some understanding of how we can reduce those barriers.

I think that everyone in the room here should be committed to the improvement of communication between government and the mining industry and all northerners. I guess the success of this seminar over the next two days will be judged on how we commit ourselves to that. We've got a very full agenda ahead of us and, again, as Mr. Butters has said, don't be depressed or over awed by it, but look at this as an opportunity to learn, but not only to learn, but make your feelings known.

We have a number of speakers who will be providing us with a lot of facts and figures on the mining industry and while this information is important, I think it's also important to gain an overall understanding of the industry and we should not focus on the details necessarily of what's being said, but rather focus on the general ideas and get a better understanding of the mining industry in a general sense and understand how the mining industry operates, what economic opportunities it does offer to northerners and where you and the communities that you represent might take advantage of these opportunities.

I think, above all, it's important to keep in mind that this is an ongoing and long process. Dramatic change isn't going to occur overnight but, again, with better communication and understanding it can come.

To some observers mining is probably perceived as a form of lottery, either you win big or you lose. While there is some truth in this and there is some measure of luck, I perhaps don't agree in total with some of the comments that Mr. Butters made about serendipity. Again, as I say, it is true there is some measure of luck in every mining success story but, at the same time, the winners create that luck through knowledge and through hard work. And I think that over the next two days as we discuss some of the basic features of the mining industry, mineral exploration and development across the North, emphasizing in particular the western part of the territories, that we'll review employment and entrepreneurial opportunities and then discuss, as you look at the agenda, we will be discussing government support programs which are available to individuals and organizations in pursuing these opportunities.

And following up all of this at the end of tomorrow, we will hear from several speakers who will talk about existing native involvement, both in northern Canada and in Alaska, in the mining industry, and perhaps we can gain some ideas from these examples.

Looking around the table and looking at the agenda which has been provided to me by the organizers, we have invited representatives of both the Dene and Metis native organizations, the regional councils from the western N.W.T. and many of the native development corporations from this region. The format, as we look at our agenda, is we have, as we have already said, quite a number of speakers and each of them will address us for 10 to 15 minutes, following which there will hopefully be a discussion on the points that have been raised by that speaker. And I would encourage all people here in the room to participate in the discussion, not just delegates from the native organizations and communities, but other speakers and other observers at the back of the room. The success of the next two days does depends on participation from everybody in the room.

Just a technical point. The microphones that we have here are here for the purpose of recording all of the discussions over the next two days. Indian Affairs will then be producing a transcript of this seminar. In order to keep us somewhat organized, I would ask that if you do wish to make a comment or ask a question that you be recognized by the chair, by myself, and it will help to keep some order to the discussion. Also, the fellow behind me here who is running the equipment will be able to then queue your microphones. So, if you could raise you hand and, once acknowledged identify yourself and then proceed with your comment or questions, it will help us down the road in preparing a transcript to show that we had some organization to this whole process. It will help us to coordinate any results that we would like to point to after the process is over.

I think that perhaps before we do start with our first speaker, it would be beneficial at least to go around the table and have each person identify themself. I have a bad habit of forgetting names and so as I acknowledge you later over the next two days when you do wish to speak, I will probably forget the names of half of you. Hopefully, by the end of tomorrow, I will know a lot more of you than I know right now. But if we could start on my right hand side and have each of you sitting at the table identify yourself and your affiliation I think that would help to break the ice a little bit and get us all to feel that we are together in this room for a common purpose. Let's start here please.

Introductions:

Raymond Beaver, Fitz/Smith Native Development Corporation; Ernie Daniels, NWT Metis Development Corporation; Tony Grandjambe, Fort Good Hope Development Corporation; Maurice Lennie, Ft. Norman Metis Association; John Day, Bosworth Creek Enterprises, Norman Wells; Bob Shank with the Department of Energy Mines & Resources in Ottawa; John Hodgkinson, Northern Affairs Program, Ottawa; Robin Aitkin, Dene/Metis Negotiations Secretariat; Alex Beaulieu, Yellowknife B Band; Doug Leonard, Metis Association, Local 55, Yellowknife; Dennis Bergen with Cominco's Polaris Mine; Vicki Grant, Canada Employment here in Yellowknife; Ross Burns, Neptune Resources; Peggy Witte, Neptune Resources; Patrick Scott, Deh Cho Regional Council; Gordon Norber, Department of Education, GNWT; Ernest Firth, Metis Association Ft. McPherson; Robert Alexis, Ft. McPherson Inc. Band; Roy Chenard, Nuni (Ye) Development Corporation, Fort Resolution; Garry Palfreyman, Ft. Franklin Dene Development Corporation; Dave Trueman, Highwood Resources in Calgary; Doug Alley, Indian Minerals West in Calgary; Don Sandercock with the Dengii Native Corporation in Inuvik, I'm also with the Mackenzie Delta Regional Development Corporation in the Mackenzie Delta; Gordon Smith, Aklavik Development Corporation in Aklavik; Rolly Trenaman, Treminco Resources, Vancouver and Yellowknife; Rod Douglas from Vancouver; Gilles Patenaude, Northern Affairs.

D. NUTTER: Thank you Gilles. There are several spots still around the table and I would encourage people, particularly speakers, who are sitting at the back of the room or other delegates who haven't joined us at the table to come forward. You are certainly invited to come forward and sit with us at the table and again, as I've said, participate in discussions. So feel free to come and take a seat at the table.

Session No.1: MINING IN CANADA AND THE NWT

MINERAL DEVELOPMENTS IN CANADA: OPPORTUNITIES AND PROBLEMS

R. H. Shank
Energy, Mines and Resources

D. NUTTER: I think we should start off with our first speaker, and we have Bob Shank. As Bob has already said he is with the Department of Energy Mines & Resources in Ottawa, and I'll give a very brief introduction for you Bob. Bob is a mining engineer and is with the Mineral Policy Sector of EMR, and Bob's going to talk to us briefly about the mineral developments in Canada and some of the opportunities and problems faced by mineral development across Canada.

And just for all speakers' interests, the microphone here has a bit of a cord so you can speak from this. Bob.

B. SHANK: Thank you Dave. Before I get into my talk, and we don't have very much time, I would like to make two points.

About 20 years ago, at the last company where I was working, we had, that was Anglo Rouyin Mine in northern Saskatchewan. We had a native program there to train and introduce native peoples to working in an industrial environment underground and on surface at a mine. It was a small program but it was one of the most successful programs of its kind at the time. It was in cooperation with the LaRonge Industries and some of you may have heard of it. If any of you want to talk about that and the way we operated, I would certainly be willing and glad to discuss it at another time with you.

The second point. I agree with Dave, and this will tie in with the talk I'm going to give you, is that the easy-to-find mineral deposits to a large extent have been found, and it's going to become more and more difficult to find properties that are covered, and at depth, and so on. The idea that we fall over mines like the blacksmith did at Cobalt, Ontario, Fred LaRose, he threw a hammer supposedly at a fox and hit a chunk of rock instead and it turned out to be silver.

Those are myths that we don't really find anymore and it's going to be really three things that find the mines for us as, to a great extent, it has been. It's going to be knowledge, it's going to be diligence and persistence and hard work on the part of the people doing the looking, and it's going to be money. You don't find these things without spending some money and taking risks of losing your money. And that sort of leads me into what I want to talk about in the next 15 minutes or so with you.

I have some sketches here on the wall. I'm sorry that the printing may be a little small for some of you at the back. I did them for the meeting in Whitehorse a couple of years ago and the people were much closer at that time to the front, so they worked better. But I'll try and talk to you about what's here.

So I'm going to start off by talking a bit about the whole mining system, right from exploration through to getting something that's useful out of the other end of the system. And the idea here is to get you used to some of the terms that you will be hearing the next two days and what they mean, without getting too involved in technical detail.

The second part is to talk a little bit about risks and some of the things that can go wrong in mining. By the way, is this too loud? It is. Maybe I'll keep the microphone further away from my voice. Some of the risks and some of the things that can go wrong and why. Not the things that go right. When it goes right, that's when you find a mine. When it goes wrong, that's when you lose your money. And then, at the very last, I'll talk about where the money goes, where it's spent.

The system, we might like to call it in mining, starts off with what we call exploration. Now exploration is a very overused word and it can mean a lot of things to a lot of people, and different things to different people. In the text in which you will probably be using it today, there are two parts in exploration.

The first is what you could call prospecting, or searching. You are looking for something. You are looking for something and don't know what it is. You haven't seen it. You only have some inklings that there might be something out there. A geologist tells you that there are good rocks in an area so you think that there might be something of value there. And so, using various processes, techniques, the catch-all word is geoscience, prospecting, people go out and start looking in these favourable areas and the product from that is a mineral discovery that might have some potential value. It might have value to you, something you could sell or even develop or produce yourself. But the key thing here is you don't know what's there in this first stage. All you are doing is you are going out and you are hoping. You pick an area and you hope you'll find something. Playing cards they call it hoper picking. You pick something and hope you will find something.

The second part of exploration is where you've actually found something of interest and you want to measure it to see how good it is, how big it is, what kind of tonnage, what kind of grade, whether it has enough potential to be of interest, or whether you should throw it away and drop it and forget it. So I say here, proving or disproving. It's either good or it isn't good. And some place along the line, you've got to make that decision. It can't be half good. It's either got to be good or not good. And you do this by, there are a lot of processes that people use in proving up an orebody or testing it.

One of the main ones is drilling, diamond drilling, where you try to get an actual section right through the mineralized zone. Note that I use the word mineralized rather than ore. At this stage, it's still not ore necessarily, it's still something of interest. You might actually, as it looks better and better, you might spend more money on it by actually going underground and developing headings into it to get a better look at it where you can see it in its actual condition, how strong the rocks are, get a better idea of the distribution of the mineralization, and actually getting an internal look at what is there.

And, again, the better it looks, you may end up at the stage of what we call a feasibility study. You would hire some consultants perhaps, or have your own people do an estimate of whether or not it could be put into production, or what the cost would be of developing it into a mine. And the feasibility study is the answer to that. And what you end up with at that time is a measured mineral deposit. You know pretty well everything you can know about it from the amount of money you've spent. You don't know 100 per cent about it, you will never know 100 per cent about it. As you get into mining it, you will know more and more, but you never know 100 per cent about an orebody.

If something is found and proven up to have some economic value, the next stage that you will hear about is development. Development is preparing the property, the discovery, for production and it includes such things as preparing the mine. If it's an open pit mine, then the surface rock, the overburden, the waste rock has to be stripped, moved back so that the orebody is exposed.

If it's an underground operation that is much deeper, we would have to sink a shaft down so that we can get people and supplies down and the ore back up. We might have to put a ramp down so that we can get trackless equipment into the mine. All these things have to go on. A plant would be built, a concentrator perhaps, or a mill if it's a gold mine operation. Electrical plant, offices, warehousing and living accommodation would have to be arranged. All that would have to go on. Transportation facilities would have to be developed and at the end of the development period you have a mine all ready to go.

This work is sometimes done by the mines themselves. Sometimes they hire a contractor or a bunch of contractors to do various parts of it. It depends on the expertise needed.

The next stage that you hear about is actual production. People mining and producing from an orebody, and it includes getting the product from the mine to some kind of a market for it. And the product coming out of that could be, if it's a base metal mine like a lead mine or a zinc mine or a copper mine, it could be a thing called a concentrate. I guess the best example might be it's like condensed milk. Condensed milk is milk with some of the water taken away. Well a concentrate is the same thing as you've had underground, the ore that you had underground with some of the rock thrown away. It sort of concentrates it into a smaller volume. And this stuff is quite saleable.

If it's a gold operation, it could be an impure metal that you sell or, again, it could be a gold concentrate, a bit of mineral and a lot of gold, depending what the milling operation is about. But it is saleable.

If it's a base metal operation, the next stage is probably refining. Smelting is really melting. You take the concentrate, heat it and melt the various parts. Everything melts and there is a separation that takes place. There are other processes now being used where instead of heating everything up and melting it, the valuable minerals are perhaps dissolved in an acid or a base and then separation takes place that way. But in smelting, usually you have a big plant so they add lots of heat and melt everything down and make a separation. And the product from smelting is an impure metal and that's why the impure metal has to go to the refining process where it's treated again and the small amounts of impurities, are taken out.

Now some of these impurities may be saleable too. There may be gold and silver in there. But as far as a copper concentrate is concerned, gold and silver is an impurity. So they separate it out and then the gold and silver is also saleable. And the product is a refined metal, refined copper, refined lead, and there is a market set for these. You can sell them any place in the world almost, depending on the purity of your product, and there is a ready market for this type of material. Prices are quoted in many of the newspapers daily. There are certain markets for these metals. They are traded. It's like a big stock market. The London Metal Exchange is one of the most well known ones, and you can look up in papers and see that the prices are quoted daily for most metals.

Then there are two more processes that go on that we talk about as part of the mineral industry, or metals industry, and that is fabricating, where you take the refined metal and you treat it or process it on to a next stage where it's something to be used along the manufacturing line. As an example, let's say if we are in the lead business, you may find that the next stage is making batteries. So I call that fabricating. There are other forms of fabricating like making wire, if you are in the copper business, and these things are then used in the manufacturing business. The batteries go into a thing like a car or truck maybe. That would be the next stage.

So that sort of sets the stage for you for the various phases which we go through in the minerals industry. And, of course, most of what goes on in your local area would be exploration, development, production and then the transportation when it is shipped out. There are various reasons for that because the smelting, refining and so on really require a lot of volume, and unless you've got a lot of volume in any one place it doesn't really pay to get into the smelting and refining business.

The next thing I'd like to talk about is what are the possibilities of something not going right in the minerals industry. I've called it risk, the risk of you losing your money if you get into this business. And I'd like to start over here at the fabricating and manufacturing ends. And those of us who are in the mining field like to think a manufacturer or a fabricator doesn't have too many risks. He is dealing with a fixed market to a great extent and fixed processes. This is not really true because things can go wrong in manufacturing and fabricating too. Peoples' tastes change therefore his product is no longer saleable. So he takes a risk in his manufacturing plant becoming obsolete maybe. General Motors finds this. Somebody else comes along with a better car and the cars they are making don't sell, so they are at risk of not being able to sell what they are making.

So I've tried to measure risk going up this way. So I've said there has to be a normal risk in any business that you are involved in and probably the least amount of risk that people do get too involved in are in these ends here. So, as we go back in the system, back towards mining and exploration, I've said that maybe there is a little bit more risk involved, if we go back to the smelting and refining stage. A smelter can have problems with getting concentrates in from different places that don't work in their process. So I give them a little bit more risk. And I give production a little bit more risk because every mine will come to an end some day. Right from the time you first start taking something out of it, the mine starts getting smaller. The orebody starts getting smaller. So there is always a finite end to any one orebody. Even in development there is a risk that something will have been overlooked; ground conditions might not be what you thought they were. But the real risk I think in the mining system comes in the exploration stage.

Remember I spoke about the prospecting stage, where you are looking and you haven't found anything yet? People have said that for every thousand discoveries there is only maybe one that's developed. I'm not sure of the accuracy of those numbers but they are the sort of numbers that everybody floats around and I think they are in the right degree of magnitude.

So we look at thousands of deposits, thousands of interesting showings, and say for every one that indicates that it might have some mineralization there, only one really ends up making a mine. So we do all this work. We fly aerial surveys. We send prospecting parties out and we lose our money because, in most cases, we don't find anything. Maybe we get negative information; negative information being that there isn't anything there, let's not spend any more money on it. But usually there are a few sniffs around and so we keep looking.

So out here in the prospecting stage, the risk of losing your money is high. I don't know how much higher here, I can't measure, but I'm estimating that it is very high.

There are more chances to lose than there is to make any money.

Some place between there, where you make a discovery, and here, where you are developing a mine, the risks decline and so I show a declining line. The more you know about an orebody or a mineral deposit, the less risk there is in it not coming into production. In other words, the more money you spend, the more you find out about it, and you either drop it altogether or the next buck you spend is maybe a little bit more productive to you. So the risks do change in there.

Now there is one thing I'd like to point out to you at this stage, and that is that most mining companies in the exploration business are happy to find anybody who is willing to put up their money to assist them in exploration, in this part of exploration, here. If you've got money to spend and you are willing to take the risk of losing it, I would guess most companies are willing to work with you in a partnership if there is some reason for it, as long as you put your money out here with them.

If you want to come in at this stage, after something has been made and partially proven, you are eliminating all this risk. Yes. But the companies have taken that risk and unless you pay your way here, pay for all this back here, you're not really being open and honest at all. And the mining companies do not like governments coming along and calling for back-in provisions where somebody says, well, we would like to participate in your venture and starting right here. It's unfair they say, and I think they've got a point. It's unfair to eliminate all this risk and think that you are going to take nothing but potential gain and not take the risk of finding it in the first place. And that's a very important point. I hope I've explained that part without belabouring it too much.

I'd like to go on now to what happens to the money that's available in a mine. Everybody thinks that because a mine is operating there is all kinds of money, they are lucky and they've got money to burn. Well, let's look at really what is available to a company in terms of money. When they are successful and have gone through all this thing and have got their mine in operation, they are selling a product. And let's say that the product they are selling is a concentrate back here, shipping it out to a smelter some place. The smelter will, of course, for a fee, turn that into refined metal which will be sold.

So down here I say, alright, let's say that the mine has this material which has been refined and sold. I say let's take lead at 24¢/lb., that was a few years ago, it's not quite the same today. Anyhow, it doesn't really matter what the price is. They are quoted this way. So much cents a lb. Canadian, plus there would be an allowance for any precious metals or any valuable material that might have been in the concentrate that the smelter or refiner will recover. But then there are charges made.

It costs money to smelt and refine the concentrate, so there will have to be a deduction made for that, fairly large. There will be freight to get the concentrate from your mine out to the smelter. There will be freight then I guess for delivering the refined metal to the customer. It has to be paid. There might be tariffs. The country to which the refinery sells the material, the refined lead, might have tariffs that have to be paid. So there are all these costs that come off whatever the price is there.

Let's work back the system now. In the smelter and refinery itself there are metal losses. A concentrate contains a certain amount of metal but the smelter and refinery are not 100 per cent efficient. They can't get everything out. There are always losses in the slag or in other parts, sometimes it goes up the stack, regardless. Sometimes there are impurities in the concentrate that the smelter doesn't want. Mercury can be a bad actor. Tin can be a bad actor in certain things, depending on the process that they use. So there might be a penalty and there is a charge against you for that. There might be too much moisture. The concentrate might be too wet and freeze. And then as I mentioned, there is a cost of smelting and refining. So that has to be taken off.

There is transportation and power. Trucking, shipping, loading, unloading, insurance. There are losses. Every once in a while a truck rolls over and the darn stuff goes in the ditch. You've all heard of stories like that. Or there is a train accident. Fuel, electricity. All these things have to be paid for back here. And now we are getting back to the mine itself, which is maybe what exists in the territory.

And the mine has to pay all of its costs. It has labour. It has to pay for holidays, unemployment insurance, pensions perhaps, health care, hospital care, dentist care, workmens' compensation, it has to train workers, it has to bring them in and out, it has to buy machinery to work, it has to keep the machinery up, supplies, explosives, provide a plant, it has to do the exploration and development we talked about back there to keep opening the orebody up so that it's available. It has to pay back its loans because they would have borrowed money to do the development. It has to pay interest on those loans. So you see these 24¢ are getting depleted very quickly and there is not much of it left.

And to get back to where the mine has to pay taxes. There are federal taxes, provincial taxes or territorial taxes, there could be royalties, there could be local or municipal taxes that have to be paid, sales taxes, getting back what's left over. Well they call it working capital or working funds and some of that has to be kept in the business and so if there is anything left back over here, this is where the owners might get some of their money back out of it. They might get it back in the form of dividends or profits.

Well that's pretty well what I have to say. I hope that I haven't been so negative that you'll be all turned off with mining. I think mining is a great activity but there are risks, and you don't go in a crap game or a pocker game unless you know the risks involved. The odds of rolling a seven, or the odds of drawing to an inside straight. Unless you know that you don't go and bet your money. Well it's the same thing in mining. You should know what it is you are getting into before you get into it and what the chances are of making money. There are changes but the chances are enhanced, they are made better if you've got good people with lots of knowledge who know what they are doing. And that can help reduce some of the risk of loss. Thank you very much.

D. NUTTER: Thanks Bob. I think that Bob's summation there about risk and understanding the industry are probably some of the most important points that he has made and over the next several days we should keep in mind that the knowledge we gain around the table will help people who wish to become involved or directly involved as investors in the mining industry, will help to reduce their level of risk through this knowledge which they do pick up, again I say, over the next couple of days.

Not that this seminar is going to make us all experts in mining or investment mining, but hopefully it will provide sufficient overview that you are aware of many of these risks. Bob has helped to do that this morning, and to make us aware that we need to go out and gather more information and helped us to find out where to go and get the information to evaluate the risks. So that's probably the principal topic that we have to focus our thoughts on as we proceed. Yes, Rolly.

Discussion:

R. TRENAMAN: Dave, I'd like to ask Bob. Is the philosophy or point of view that you espouse today reflected in the senior minions in Ottawa as far as setting tax policy and as far as helping the exploration industry?

B. SHANK: Damned if I know. I'm talking mainly from my own experience in the industry and, yes, we can give some advice to the minions that set taxes. And the advice that we'd give would be along this line, but what criteria they use they don't necessarily divulge to us. They keep that pretty much to themselves.

R. TRENAMAN: I refer, of course, to the very substantial impact that the use of flow-through has had for so much of the development going on in Canada over the last few years.

B. SHANK: Yes, you still need a target for anything like that and the target is the chance to find a mine and make something out if it, and it's hard to say. I don't think that just the fact that flow-through shares are available would be the reasons that flow-through shares have been successful. I think the fact is that there are good chances out there and flow-through shares are one way of raising money to carry out the exploration efforts needed, that it replaces the tactics, the ways that people raised money say 10 - 15 years ago when the rules of the game were different as far as the stock exchanges were concerned I think.

D. TRUEMAN: Just in support of your comment on risk, in some way of attempting to quantify that, the Canadian Exploration Geophysicists Society (or CEGS as they call themselves) indicated in 1976/77 that after selecting an area for exploration, flying that area, one conductor in ten thousand turned into an orebody. Two of them went on the shelf. In terms of 1976 or '77 dollars, it was approximately $10 million dollars all to make that one discovery.

D. NUTTER: Just by way of clarification, Dave, that $10 million that was to find, to actually make that discovery and that, of course, does not include the development work which turned that discovery into a producing property.

D. TRUEMAN: No. That $10 million covered all the ones that went by the wayside.

D. NUTTER: Thank you. Yes.

D. SANDERCOCK: I'm Don from Inuvik. Could you just explain to me what a flow-through share is, in mining terms?

R. SHANK: Yes. There are certain write-offs that are available to companies involved in exploration; tax write-offs. Now, if a company is involved in exploration and doesn't have any profit, they don't have an operating mine and therefore no profit against which they can write off these tax advantages that they get from carrying out exploration, then the tax advantage would be lost. It would just disappear.

And a few years ago, actually at the instigation of Energy Mines and Resources, the idea was put forward that why could not these tax advantages, these tax write-offs, be flowed through to the people who put up the money in the first place for the exploration, the searching that goes on. They take the risk of losing their money and get nothing back, so instead of these tax write-offs being lost why can't they be flowed back to those investors instead of lost by the company? So that's what the flow-through share does. It takes the tax write-off for the money that's available, that you put up, and flows it back to the original investor which might be yourself, a dentist, a lawyer, anybody that's got lots of money they don't know what to do with and invests in these propositions, and allows that person to write it off against his personal income tax. Does that explain it?

COMMENT: I'd just like to make the comment that it's a very popular system in Canada.

D. NUTTER: Just by way of further clarification as well, we shouldn't get too far off track, but it's estimated in 1987, approximately $1 billion will be raised to finance mineral exploration in Canada through the flow-through share mechanism and in the last year, it was responsible for financing perhaps 75 per cent of the mineral exploration in Canada and if that financing mechanism were to be removed or severely curtailed by the Department of Finance, while it would perhaps not dry up all of those funds, it would substantially cut back on the money available to finance mineral exploration which would have a dramatic impact not just on the people who are spending the money, but the suppliers of goods and services to the exploration industry. So we've identified that it would actually have quite a dramatic impact on the economy of the Northwest Territories, for example, if that financing vehicle were no longer available.

G. PATENAUDE: Gilles Patenaude here. Just a question on prospecting. But before I ask the question, I wondered about who can invest in these flow- through shares and the comment was made that anybody who has money and doesn't know what to do with it. I don't think the native corporations are in that position, but what would be their advantage to and how could they get involved in the flow-through share system? What do they get from it if they invest?

Secondly, my second question relates to prospecting because there are a lot of prospectors in the Northwest Territories who are not directly connected with a mining company per se. How do they get returns for their money?

R. SHANK: I've made the statement that people who have money and don't know what to do with it could put it into a tax investment purpose thing like flow-through shares because they are looking for ways of maintaining their capital you might say, but also, people who invest in any kind of share are doing it for the gain that they might get by making a discovery. Now nobody would buy flow-through shares if they didn't have profit in some way in which they could write the tax advantage off on.

So to make the flow-through shares popular to any person they have to have income on which they would be paying a tax and they can offset that income by the investment they make in the flow-through shares. If you don't have the income, there is no sense in buying the flow-through shares. You can buy any kind of share, you don't have to buy flow-through.

So I think to some extent that may answer your first question. The advantage to buying shares at all, flow-through or otherwise, is that you have the opportunity of participating in a discovery if a discovery is made, if it's one of those ten thousand, or one of those thousand, or whatever it is, whatever the chances are. Just the same as you don't win in a sweepstake unless you buy the ticket. It's like that.

I guess your other question, Gilles, was about prospectors was it?

G. PATENAUDE: Yes. In regards to the flow-through shares, then people who do invest, they get shares in the company that is actually looking or developing a property so that they have an opportunity with the money they invest in the company to retain from that a number of shares in the company and possibly profit from it later on then?

In regards to the prospecting side. My question was related to the number of prospectors in the Northwest Territories, for example, who are on their own, who make a living out of it and who are not directly connected to any mining company. How do they make a living out of it? How do they get returns for their work?

R. SHANK: Just one point of clarification on the flow-through shares. A flow-through share is really, if you saw the ceritificate, I guess it doesn't look any different than any other share, but it does carry this tax advantage to the first purchaser of the share.

You buy it on the initial distribution of those shares from your broker, and you get the tax advantage. If that person, if he then sells the share, the next person doesn't get any tax advantage for the secondary and third purchase. So the share doesn't look any different than any other share, it's just the first purchaser gets the advantage.

Secondly then, where is it possible for a prospector to make money? On my charts there, I put a few red stars as to where things are normally sold and where it's possible to make some money. If you are prospecting, there are two or three different ways that you can make money.

One is by staking claims and selling them to somebody who wishes to buy them. So you just sell the claim. Another way is to work for somebody who wishes to have a claim staked for him, or have assessment work done for him, assessment work being the work required to keep a claim in good standing. It might be a bit of mapping, moving dirt, drilling and blasting on surface to open up an exposure of the mineralization. So these are some places where a prospector can make money. He can do it on his own, find something, hope to bring it to a stage where he has made the claims or the showing valuable enough that somebody wishes to buy it.

If there is a big rush and you jump in and you stake ground just out of pure speculation, sometimes you can sell your claim. If you just go out and stake ground and then try to get somebody to buy it, it may be that nobody wants to buy it from you because moose pasture is moose pasture. But if you've done some work and found something of interest, then somebody may be willing to buy it from you or they may be willing to grubstake you, to give you some money to do some more work, to hire a diamond driller to come and put some holes down. There are lots of ways to skin the cat in this instance.

D. NUTTER: As I look around the room I see there are several people here who actually are living examples of how prospectors can make a living. Sonny Arden sitting at the back has been a prospector for many years and I think has found it to be a rewarding experience, both personally rewarding, as well as some financial reward to it as well.

Getting on to the, getting back just briefly to the flow-through share question and, again, there are a number of people in this room who have quite a bit of experience as operating companies who have issued flow-through shares and attracted investors through the flow-through share concept, and while we could probably go on all day long discussing this, I wonder if perhaps if Dave Trueman or somebody else might just want to add another word or two of why your investors have found it attractive to actually participate in the flow-through share issues.

D. TRUEMAN: Several points come to mind here, Dave. One, the flow-through share concept was arrived at by Judy Erola as a way to stimulate the junior mining industry. The majors or producers were exploring on after-tax dollars for about 25 cent dollars. The juniors were exploring on 100 cent dollars. So the flow-through share concept was initiated to stimulate or maintain high levels of junior activity, the juniors being credited with something like 70% of the discoveries in this country.

There are ways, as another point, for prospectors to take advantage of flow-through shares. Instead of selling the discovery for cash which is taxable, he can trade it for stock.

Flow-through shares sell themselves, and I would envision anybody going into the mining business organizing and issuing stock. This is one way for natives to participate - issue flow-through stock. Flow-through shares sell themselves. Unfortunately, that money has to be at risk. Accordingly, you can't use it for certain capital items, you can't use it to acquire land. One has to use ordinary treasury funding to do that. It has become very difficult in Canada now to sell an ordinary share because of the popularity of flow-through shares. Highwood and Aber's experience is to go offshore. You can sell ordinary stock in London just like falling off a log.

D. NUTTER: Thanks, Dave... Yes, Rolly, go ahead.

R. TRENAMAN: There are some inherent disadvantages to the junior resource company in terms of the sale of flow-through shares in that it is selling forward potential tax write-offs. You must remember that the investor, the individual, gets that tax write-off and the company loses it. And, for those junior resource companies that are envisioning or expect to move into the production situation, they have given up their future tax benefits in terms of the normal write-offs you get, to the extent that they have issued flow-through shares. So, it's not all a bonus.

D. NUTTER: Any further questions of Bob or any further discussion on what we have been discussing. Don, did that help you at all?...OK. Perhaps we will move along here. Looking at the agenda, I'm up again. I will try and be brief.

IMPORTANCE OF MINING IN THE NWT

D. Nutter
Chamber of Mines

D. NUTTER: I will introduce myself by saying that as Gilles has already pointed out, I'm the General Manager of the N.W.T. Chamber of Mines. I am a geologist by background, and have been involved in mineral exploration in the north since 1971, in the Northwest Territories since 1973, and have been working with the Chamber of Mines for about two and a half years.

The Chamber of Mines is an organization which represents all of the producing companies and most of the exploration companies in the Northwest Territories. We act as a liaison between the mining industry and the public-at-large and various levels of government, and act as a spokesman on behalf of the mining industry to government and again to the public-at-large.

I am here to talk about the importance of mining in the N.W.T., and it says here "industry perspective", but I have talked to several people within government as well, and the message I am giving you is not just the industry viewpoint of the mining industry, and why it is important, but I draw upon information from the government and how they feel that they, and the public-at-large, benefit from the mining industry.

I'll start off with just a brief summary of some mining statistics. Actually, before I do start that I should just mention the history of mining, and mining has a long history in northern Canada. Again, as Mr. Butters has mentioned, aboriginal people were involved to some degree in mining, and what comes to mind particularly are the people of this region and north to the coast who were involved in extracting copper and using copper for implements. Modern-day mining in the N.W.T. started both in the Great Bear Lake area with mining of radium, and also gold in the Yellowknife area in the '30's. Now in 1986, there were ten producing mines. Since the end of the year, actually several mines have recently closed down, but on an average in 1986 there were ten operating mines, six of them producing gold, three lead-zinc, and one tungsten. There are also a number of significant prospects in the Northwest Territories, which there is good reason to hope will see production within the next year or two, gold properties, at least one particular uranium property, and several what I will call specialty metals properties, looking at beryllium, yttrium, rare earth elements and other high-technology metals. Dave Trueman here from Highwood will be talking to us about that in particular a little later.

In the Northwest Territories specifically, we are the fifth largest metal producer in Canada, and in 1986 produced $631 million worth of metallic minerals. That's 7% of Canada's total production of metallic minerals, and quite a feat given that we represent about .2% of the population of Canada. Now granted, to our advantage is the fact that we cover almost a third of the geographic area of Canada, so we have a lot of ground to look at, and that gives us a lot of potential for mineral development.

As part of the $631 million in mineral production, we produced about 13% of the gold in Canada last year, in excess of 25% of the lead and zinc produced in Canada, and 100% of the tungsten. Some of the examples of our major producers would be the Lupin Mine north of town which ranks about second, I believe, in Canada, for gold mines, and another example of a success story would be Giant here in Yellowknife, which, since 1948 has produced about 6 million ounces of gold, and at today's prices would translate into about $ 2.5 billion worth of gold. Unfortunately for Giant, gold has not always been selling for $ 400 an ounce. In fact, for much of the life of the mine, it was selling for around $ 30 an ounce or slightly more, so they have not realized $ 2.5 billion as a mine opening up today might do.

There are a number of obvious impacts from the mining industry on the Territories and the Territorial economy, impacts such as employment, revenue to government, and the provision of infrastructure for use of all northerners.

Looking at employment firstly, as Mr. Butters has stated, mining is the largest private sector employer in the Territories, second only to government as an employer. There are presently about 2200 direct employees in mining, and it is estimated that for every full-time worker in the mining industry, that creates approximately three-quarters of a job outside the mining sector, in the service and supply sector supporting the mining industry. So it could be presently estimated that mining accounts for about 3800 jobs directly and indirectly across the N.W.T.

Contrary to the belief of many people, mining does employ a great many northerners, and in 1986 about 80% of the direct employees in the mining industry were resident in the Northwest Territories.

Another major impact of mining would be the financial impact, both in revenues to government as well as an impact on the economy of the Territories overall. Mining contributes money to the levels of government in three ways, through the payment of royalties, through payment of corporate income taxes, and thirdly through the payment of employment income taxes by the workers in the mining industry. Between 1975 and 1985, the royalties paid by mining have ranged from a high of $ 7 million in 1981 to a low of just under $ 200,000 in 1984. The most recent figures we have were in 1985 about $1.5 million were paid in royalties to the Federal Government.

Now to just give a quick definition of a royalty, a developer of a mineral resource does not own the mineral resource, so Giant does not own the gold which it mines. Giant is essentially leasing the rights from the Federal Government to mine that gold and to sell it. They own the gold once they have mined it, but they don't own the right...Sorry, to back up a little bit, they do not own that gold, they are leasing the right to mine it and sell it from the government and that lease payment is made in the form of royalties. One interesting and attractive feature in royalties in the north is the fact that they are paid based on the profitability of the company. This is why we have the great range in royalty payments over the years.

Similarly, corporate income tax is paid by the mining companies. Again, the amount of tax they pay is based on the financial success of the company, so again in the last ten years taxation paid by the mining industry to government, to the Federal Government, has ranged from a high of $ 32 million in 1979, to a low of $ 1 million in 1982, and in 1985, approximately $ 2.5 million were paid to the Federal Government in corporate taxes.

Where government really feels the impact of the mining industry is in personal income taxes collected from workers in the mining industry. That has grown steadily in the last.. well, ever since, I am sure, mining began, but certainly in the last ten years, it has grown from $ 5.5 million paid to government by workers in the mining industry, to almost $ 30 million in 1985.

So, just in summarizing, the royalties and corporate taxes, as I have said, are closely related to the profitability of the industry and they can't be counted on by government as a consistent source of revenue. On the other hand, given that mining is a major employer in the north, taxation paid by northern based workers are a significant source of revenue to both the Federal and Territorial Governments.

In addition, workers' salaries in themselves have a significant impact on the Territorial economy. In 1976, wages and salaries paid to workers in the mining industry amounted to about $ 35 million. In 1985 it amounted to about $ 110 million. With benefits included, the value of remuneration to workers in the mining industry amounted in 1985 to about $ 144 million. In 1985 the average wage paid to workers in the mining industry was $ 45,000, and that is by far the greatest average wage paid to any component of any employment sector in the Northwest Territories. Looking at today's level of employment in the mining industry and using the 1985 wage scale of $ 45,000, northern residents working in the mining industry earned approximately $ 80 million last year, and being resident in the North, that money, by and large, was spent north of 60°, and is of direct benefit to companies, stores, other businesses in the North who supply the residents of the Northwest Territories. I think that government and the business economy derive a far greater financial benefit from the labour intensive nature of mining than from the direct royalties and other payments made directly by the mining industry.

Mining also has a very direct and significant impact on our economy through purchases of goods and services by operating mines, and by the exploration industry. In the last year, the mining industry operating mines spent in excess of $ 35 million in purchases of goods and services north of 60°, and those are simply the operating mines. The exploration industry spent an estimated $ 35 to $ 40 million north of 60° as well last year, sorry, not north of 60°, but exploration north of 60° and while it is difficult to pin down how much of that money was actually spent in the North on purchases of goods and materials, I think that the amount is quite significant. So just as a rule of thumb, I would say that well in excess of $50 million, and perhaps $60 million was spent in the purchases of goods and supplies in the North in the last year.

Given the expected growth, particularly in the exploration sector in the next year or two, due to the interest in gold, I think that those figures can be expected to increase. In addition, we have several properties which we hope will see production in the next several years, and that is when very substantial amounts of money are spent by companies as capital expenditures in the development phase that Bob Shank has already described. So not only does mining invest quite heavily in the North today, but I think the prospects are good that there will be enhanced investment in the near future.

There are other important contributions that mining makes to the North, particularly in the form of the growth of infrastructure. For example, Yellowknife itself was established 50 years ago as a mining town, and while Yellowknife has seen dramatic growth in the last 20 years, since government moved in a large way into the North, the establishment of Yellowknife and the basic infrastructure of Yellowknife was provided by mining, or in support of mining. Many of the roads that cross the North were put in place to supply the mining industry, both to bring in materials and to take the product out to market. And as we are well aware, Echo Bay Mines and other properties who put in ice roads every year, those roads are used by many northerners in the Yellowknife area to gain access into the areas north of Yellowknife for hunting and other purposes.

The railway to Pine Point is another example of a very significant impact in the provision of infrastructure that a mine has had. That railway has been used to a large extent by Pine Point Mines, but the oil and gas industry in the Delta has made use of the railway bringing materials north, and just other materials being shipped down the MacKenzie River system, much of it does come north on the railway.

Power generation, the power plants both north and south of the lake, many of them were put in place to provide power to the mining industry, and without that significant demand by the mining industry, it is open to question how many hydro plants we would have in the North today.

Again, airstrips in Nanisivik, Yellowknife, the Lupin airstrip, were all put in place initially to serve the mining industry. So, in summary, the mining industry not only creates jobs, but it provides business opportunities, development of infrastructure, and does contribute significant revenues to all levels of government. And I think that over the next couple of days we will hear more details about some of these things that I have addressed now. So, if we have any questions on some of these points I have just raised, or some of the information I have brought out..... Yes

Discussion:

P. SCOTT: Pat Scott, Deh Cho Regional Council. A couple of questions Dave. You said that the current employment level in the North was 80% in the mining industry, or 80% of the employees are resident in the North. I am wondering what the trend is. If you go back 20 years, what percentage of employees would be northern residents?

D. NUTTER: I guess I would just have to... I don't have those statistics at my fingertips. I would look to people who have had a lot of experience in the North, like Rod Douglas, to help me here if I go astray. But looking back over the years, if one goes back to the 1930's and '40's and '50's, virtually all workers would have been northern residents. As some of the more remote mines were opened up, such as the Polaris Mine, and then the Lupin Mine, the remoteness of those mines has led both the developers and the government to realize that a single industry town built at the minesite was not the way to go. And for a variety of reasons, the mines have brought in workers, both from the North and from the South.

I think perhaps some of the other speakers will get into some of the problems of why there are not more northern workers at those mines, but unquestionably, in the early 1980's we started to see a greater proportion of workers from outside the Territories at the Northern mines. There is a continual attempt by these companies to find more qualified workers in the North. It is quite a large expense for them to bring in workers from the outside, and for a number of reasons, expense being one of them, just reliability and convenience of having a worker closer to the operation encourages the mines to try and find more northern workers, but there are challenges to find sufficient numbers of skilled people. I think that we are seeing a trend now to...it's a very slight reversal, but I do see a reversal in that trend toward outside workers.

Again, companies like Lupin all the time are finding more and more workers from the North, from Yellowknife, from Coppermine, who are able to satisfy their employment requirements. And so, with a good co-operative effort between the government, the mining sector, and people seeking employment, I think that we can keep whittling away at that 20% who are non-resident workers.

P. SCOTT: What percentage, then, of that 80% would be native, northern native employees?

D. NUTTER: We don't have figures on that. I know the Territorial Government in particular has on a number of occasions asked that question of the Chamber, and of the mining operators themselves, and the response that has come from the individual mines has been that when they hire people, they do not note on the employment form, and on their statistics, what the racial origin is of the worker. Now, I suppose one could say they could very easily just look down the rolls or look around the mine and look at the people and make a judgment as to who would be an aboriginal person and who would not, but the mines feel that that is not their role. They don't want to make that kind of a judgment, so they just note the residence of the workers, and whether they are northern or not, so I can't give you that figure.

P. SCOTT: I am asking those two specific questions because I think, speaking on behalf of the region that I represent, it is clear that very few people from our region have had an opportunity to speak with representatives of mines and if you compare the activity of the oil and gas industry in trying to recruit native northern employees in small communities, to what the mining sector has done, the comparison is not very good.

D. NUTTER: I think that I would have to acknowledge that what you say is correct. Perhaps we can leave that sort of question, unless there are some people right now at the table who want to address it, we can leave that sort of question on the table. There are going to be several speakers, particularly today, who represent mine operators in the North, either representing mine operators who have past experience as managers of northern mining operations and they would be better able to address that. I think that it is...I will say that it is a concern, that I am aware, not only of aboriginal people, and the government, it is a concern of the mining industry, and I would say that they are working to overcome that. Again, it would be best if some other people from the industry specifically addressed it. I think Bob Shank has something that he wanted to add.

B. SHANK: I can just give you some statistics from my memory. It was 20 years ago that I was at Anglo Rouyn. Our participation of native peoples got as high as about a third of our total crew. In the long run, it averaged out around 18%, and by the time I left, I had been there three years, it was the most stable part of our work crew. That is, our turnover among native indigenous people was lower than our turnover from outside. It was just something that came. The people that took to mining liked the work, and stayed with it. Now, we went through an awful lot of people of all kinds before we got the crew that we sort of ended up with, because, naturally, a lot of people don't like mining. Let's face it. It is not a normal way of life to most people, and it is a bit of a cultural shock to work underground. We had a chap from down south in Saskatchewan came up to work for us, and I got a call from the doctor one day that this man should not be working underground, he's terrified, and he was, but he wasn't going to let people think that he was afraid of going underground, but he was, he was terrified. I said fine, best thing was to get him out. So we talked to the chap, and he asked "do you really think I could go back home?", I said "sure, best place for you", and he did, but it is not for everybody. We have to acknowledge that. But those are roughly the two numbers I recall.

P. SCOTT: Just one further question, or comment. The $45,000 average income that you were talking about in 1985 for mine workers. With the low level of of the oil and gas industry in trying to recruit native northern employees in small communities, to what the mining sector has done, the comparison is not very good speaking from the Deh Cho Region.

D. NUTTER: I think that I would have to acknowledge that what you say is correct. Perhaps we can leave that sort of question, unless there are some people right now at the table who want to address it, we can leave that sort of question on the table. There are going to be several speakers, particularly today, who represent mine operators in the North, either representing mine operators who have past experience as managers of northern mining operations and they would be better able to address that. I think that it is...I will say that it is a concern, that I am aware, not only of aboriginal people, and the government, it is a concern of the mining industry, and I would say that they are working to overcome that. Again, it would be best if some other people from the industry specifically addressed it. I think Bob Shank has something that he wanted to add.

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asked "do you really think I could go back home?", I said "sure, best place for you", and he did, but it is not for everybody. We have to acknowledge that. But those are roughly the two numbers I recall.

P. SCOTT: Just one further question, or comment. The $45,000 average income that you were talking about in 1985 for mine workers. With the low level of native employees, I think it would be fair to interpret it that many of those employees in the mining industry would be new residents in the North, and it ...I raise the issue because I think it creates a social concern because the disparity in ability, wage-earning ability, or levels of income, increases as more new residents arrive in the north and are able to access the higher income positions, and in our communities in particular, we have very high levels of unemployment. I guess I am making the comment again to encourage discussion on how to make the mining sector jobs more accessible to residents in small communities.

D. NUTTER: I think, Pat, that that probably should be one of the key issues that we do discuss over the next couple of days. It unquestionably is very important. One of the speakers coming up tomorrow is Darrell Spilde, who is Vice-President of Nerco, and manager of the Con Mine. I don't want to speak for him, but I will pass on comments that he has made, and we can address it. Hopefully, he will be joining us either later today or certainly tomorrow.

It is his feeling that the more northern residents that he can employ, people who are resident in the North today, when he employs them, the more economical it is for him as an employer. If he has to bring someone in from the south, now granted as soon as he brings someone from the south to work at Con Mine, the person now lives in Yellowknife and would be considered statistically to be a northerner, but your point is that they are new northerners. Darrell would like to see more "old" northerners, more existing residents working at his property, because, as a manager, it makes good business sense for him, and that is a goal of he and his company, to increase that level.

Again, there are other companies in the North that have much the same goal. I point out the fact that there are a number of challenges, there are a number of people who will be speaking to us, both personnel people from some of the operating mines, and others, people from the Department of Education here, etc. who can, I think, better discuss than I some of those challenges and perhaps how we address those challenges, and I certainly invite you to raise this again as we continue. Rolly Trenaman.

R. TRENAMAN: A couple of short questions, I realize we are running late here. One is related to your multiplier effect for mining. I find that intriguing because I have heard many different numbers all the way from 1 to 7, so three-quarters, where did you come up with that one?

D. NUTTER: It's not mine, not that I want to wash my hands of it, I found it intriguing as well. It came from the Federal Government, from the Department of Indian Affairs and Northern Development. A number of years ago they had some studies done by, I believe it was Coopers Lybrand, and that number came out of the studies. Now, I agree with you that one has to be careful with anything like that. Numbers range as you say from 0 up to, I've heard, 7 as being a multiplier effect. I'm not an economist. I'm not really sure how those numbers are derived, and the three-quarters, I can't give any further background. We would have to get some economists in here to confuse us with a lot of charts and numbers to get an answer on it. So I think the important thing is not to rely heavily on those numbers. I think perhaps that number is low, and I think the important thing to realize is mining has quite a large spinoff effect on employment in the North.

R. TRENAMAN: My second question - $45,000 as an annual average wage, is that all benefits in, everything?

D. NUTTER: No, in 1985, $45,000 was the average of salaries and wages. With benefits included it amounted to about $59,000 annually. Those numbers come from an unpublished study which is jointly financed by the Territorial and Federal Governments through the Chamber of Mines, it is called the Price Waterhouse Mining Industry Study, and the most recent results for 1984/85 are just about to be published in the next month or so, and I have had access to the draft, and picked up those numbers from that draft report. That study was done by thorough canvassing of all operating mines in the North.

G. PATENAUDE: In regards to the comments by Pat Scott, they are very welcome from him. I think it has been a very deep concern of government, and of the mining industry, that there hasn't been as much participation as would be desired from the native northerners in the mining industry. There has been some success stories, for example, the Nanisivik Mine, where special programs were put in place to hire local people, and now the level of employment in the mine, which has a fair number of people working there, is up to 26% from the native local population, which is fairly high.

Resulting from this seminar here, in the next two days, I can certainly see the possibility of developing some kind of group that might look at this issue involving the mining industry, and maybe government and some native groups, to try and tackle this issue a little more closely.

D. NUTTER: Thank you, Gilles. Yes?

G. NORBER: While we are on the subject, I just might add that Arctic College is looking at developing a course particular to mining as a way of involving more northerners, and in this way the long time northerners, who are native. I would be very interested to hear the comments, particularly tomorrow, as to how we can address some of the issues that are coming up at the point in the whole area of employment training.

MINERAL POTENTIAL OF THE WESTERN NWT

W. A. Padgham
Northern Affairs Program

D. NUTTER: Thank you. Our next speaker is Bill Padgham. Bill is Chief Geologist with Dept. of Indian Affairs and Northern Development. He is responsible for managing DIAND's responsibility in the area of geologic mapping and provision of geologic information in the Northwest Territories. Bill is going to speak to us about the mineral potential in the Northwest Territories, particularly in the Western N.W.T.

W. PADGHAM: Thank you, Dave. The Northwest Territories is a huge piece of real estate. It contains ten or parts of ten of the geological terrains or Provinces of which there are 15 represented in all of Canada. We have portions of ten of them in the Northwest Territories, eight of those in the west. The most I could do in the time allotted is indicate to you which ones of them at the present time have the best potential for finding deposits that the prospector or the developer can make a buck on, and that's what mining is about.

Mining is the foundation of civilization, as Jane Jacobs has pointed out. Civilization developed around mines when probably what was being produced was flint. It has gone on from there. Of course, it may also be the end of civilization, but...

So, to begin with, I have a slide that will give you some idea of how the Northwest Territories stacks up in size and population with some other parts of the world. Here is the Northwest Territories with its offshore waters overlaid on the United States. This was done back in 1978 when there were 47,000 people in the Northwest Territories and 210 million in the United States. It's a huge area, there's a lot of different rocks in it.

This is the geological Provinces, or elements, or terrains in Canada. The ones of major interest at present in the Northwest Territories are the Slave Province, and the Ennadai-Rankin belt, which of course is in the east. These areas are of major interest because they are the areas with the best potential for gold. A geological map of Canada circa 1967 shows these areas in more detail. Again, the Slave Structural Province here, the Ennadai-Rankin belt here. Every different colour on there represents a different rock. The greens and blues are what we call platform rocks.

So briefly, to decide the geological Provinces or terrains which contain specific rock types and rocks of similar age, and which ones have mineral potential. Up in the Northwest is the continental shelf, the Arctic Coastal plain where we have the MacKenzie Delta and Beaufort oil deposits. In the Inuitian Fold Belt, a small piece of it would fall within the west, if there was a division, potential for lead/zinc, for oil and gas, farther east for coal, potentially coal in the west as well. The platforms are interior platforms, prairies farther south, flat lying rocks, limestones, sandstones, such things. Pine Point here, for almost 20 years, from 1965 on, the backbone of the Northwest Territories mining industry, now in decline, not because there is no mineral there, but because they cannot produce it profitably.

Farther west is the Cordilleran (that's a Spanish term geology takes words from all languages, particularly Latin and Greek) but the Cordillera, that's mountain in Spanish, and the Cordillera is a region of mountains, as the Inuitian Fold Belt is as well. In the Cordillera there has been production in the N.W.T. of tungsten. There's lots of potential if the price comes back. There's many other deposits along the border of the Yukon. There is also copper potential, lead/zinc potential at Prairie Creek, base metal silver deposits, the largest sedimentary copper belt in Canada is within that area as well. There may even be potential for diamonds.

We also have a piece of the Churchill Province, named after the port of Churchill, the Churchill Rivers in Labrador and in Saskatchewan and Manitoba. At present little mineral potential in the area that would fall in the west, but some exploration for platinum group metals on the Arctic Coast here, the Perry River and down around Rutledge Lake, and potential elsewhere in this very poorly known area. We know very little about the geology in detail.

Of course the platforms of the MacKenzie and Inuitian Fold Belt are much younger than these rocks, which are Precambrian, in other words rocks that are more than 650 million years old. The Bear Province, which surrounds the Slave Province, named in this case for Great Slave Lake, which presumably is named for the Slavey tribe, the Bear Province has produced first radium and silver, then uranium and silver, and then silver, all from vein type deposits along the east shore of Great Bear Lake where there is still considerable potential. It has also potential for uranium, although we haven't found any significant deposits as yet in that area. There is a few gold showings that are of interest, and there may be gold deposits in that area, in environments that we haven't yet recognized.

The Slave Province, the red area, are the oldest rocks in the Northwest Territories. The youngest of them are about 2.5 billion years old. The oldest ones at least 3.5 billion years old. This is the area that is currently attracting most exploration dollars, most exploration effort. Most of the $30 to $40 million that will probably be spent in 1987 will be spent exploring for gold in the Slave Province.

Surrounding it, of course, the Bear Province, with the Thor Lake deposit which is related to igneous activity, that is intrusion of granitoid rocks, or granites, whatever one wishes to call them, during the development of the Bear Province rocks about 2 billion years ago.

Now, all rocks are good, in spite of what some may say. One has to know what one can find in the rocks if one is going to be a successful prospector, whether a non-technical prospector who commonly succeeds, perhaps because of serendipity, but more likely because a natural prospector is a very good observer of the natural environment. He recognizes what we call anomalies. He sees that something is anomalous, it's unusual, it attracts his attention.

Mineral deposits tend to have an anomalous signature. It is what we use to recognize them. So the non-technical prospector, the person who is not educated formally, will be successful because of his highly developed observational abilities, the hunter, the trapper, the fisherman, tend to have those sort of abilities.

The technical prospector, the geologist, the entrepreneurial explorer, whatever, needs to know what might be present in the rocks that he may be exploring. The more you know about the geology, about mineral deposits, the less likelihood that you will miss the potential that others have missed. The story of Highwood Resources is a fine example.

The area was originally staked because geologists recognized the potential for the rare metal columbium, related to the unusual igneous rocks there. They didn't find enough of it to make it of any value, and the next time it was staked, it was staked because there is a radioactive anomaly over it.

That led to attempts to find a uranium deposit, which failed, but in the process, other materials were recognized, and the property was optioned to a major mining company who spent a lot of money trying to develop the potential of the other material. That didn't pan out, they dropped it, and Highwood then took another look, and decided that the unusually high values in beryllium that were recorded originally by government geological survey workers and later by some assays that had been done, selected core material, should be investigated. So that's an example of persistence and hard work, and having people who recognized the potential. The potential of rocks that perhaps others have ruled out.

There are large areas of rock within the western Northwest Territories which at present we would give a very low potential to, and we have some maps that we will put up that, based on our limited geological knowlege, define what we think is the mineral potential of the western N.W.T., parts of it. One only needs a major discovery in an area of low potential to suddenly make that one of the areas of high potential.

So here's the label the Columbian Origin. It's the western part of the mountain belt that stretches from South America through Alaska and the red areas are intrusions which have associated with them various metals such as tungsten, a bit of copper, again an example of one group having the expertise to look at what someone else had done in exploring for copper, another group came in after that property had been dropped to test out the tungsten potential, and that was how Cantung was founded.

The western Bear Province with the mines that have worked in the past, Rayrock, there's untested potential for gold in this area, waiting for someone who can come up with some imaginative ideas on where the gold, it must have been eroded from the adjacent Slave Province, where did that gold go to. Some of it must have been trapped in those rocks. We haven't found it yet, we may never find it, but it's worth looking for.

This slide shows the tremendous increase in gold production in the Northwest Territories in the last few years, mainly because of the development of the Lupin Mine. Traditionally, the N.W.T. has produced 10% of Canada's gold. With the beginning of the Lupin Mine, we significantly increased that percentage, although it is declining now as numerous mines come on stream in the south.

The Slave Province, and I will skip over this because I don't think we have time, the areas of significant interest within the Slave Province for gold deposits are those which you see colored in this slide. The uncolored areas are the granitic intrusives, and a few other things, so that the rocks which were formed at the surface of the earth some 2.7 billion years ago, and were then changed into what we call metamorphic rocks, contain most of the gold deposits, with a few exceptions.

I've put a lot of slides in here in case this meeting needed me to spend some of your time. East of Yellowknife, for instance, there are almost two hundred deposits within the metamorpho/sedimentary rocks of the Yellowknife Basin. These rocks have had most of the mines in the Northwest Territories, and most of the gold mines, if you call a hole in the ground that produces a bit of ore, or a bit of rock, and puts it through a mill a mine. They were attempts, but they have only produced 1% of the gold. And those mines are represented by this small yellow bar.

This is the to 1984 production in tons of gold, and you can see most of it has come out of the Giant and Con Mines that are in volcanic rocks. And those deposits, until the development of Lupin, were the major producers as you can see, 300 tons of gold, a lot of gold from a very small area, which is typical of gold production. Most of it comes from very small areas. So these are volcanic hosted deposits, and hence the volcanic rocks are the best place to look for mines, the volcanic rocks within the Slave Structural Province.

But with the development of Lupin, you can see that now the major production each year comes from a different type of deposit. The Lupin Mine is in the sedimentary rocks, not the volcanics, so that also gives you good areas to look for. Those are the numerous, every X there is a gold/quartz vein in the supracrustal rocks, the sedimentary rocks east of Yellowknife, and they are very difficult to make money on. They tend to be too small.

There's other possibilities though, here's the Salmita deposit, which is in a sedimentary horizon between two volcanic phases, and farther north, the largest gold discovery in many years, potentially one of the largest in Canada, the so-called Tundra Project of Noranda and Getty, is along the same zone that the original Tundra Mine was on, and the Salmita deposit is on, and then up here in the upper volcanic cycle is a very large gold deposit.

So this tells you that your prospecting would probably be most successful if you are prospecting at the transition from volcanic rocks to sedimentary rocks. So you have to know, if you are going to be a prospector, how to tell between volcanic and sedimentary rocks.

There are many other potential areas of gold deposits in the Slave Province. This one is up on the Arctic Coast. It's different. This is an intrusion of sorts, a granitic rock that has punched into the surrounding volcanics and sediments. Along the west side of it, there are numerous quartz veins that Canuck Resources are trying to develop.

And so, that's the end of the slides. I know that there is a tendency for geologists to talk in esoteric terms that many others don't understand, but I think that if I went out on a trapline, I would probably find a trapper talking about things in his own language, in words that I would perhaps understand, but not understand within the context that he uses them. This is a major problem with native participation in mining and exploration, is the need to become familiar with a language that not only is foreign to them, but foreign to most of the "others" in the North.

Thank you. If you have any questions, I will try to answer them.

D. NUTTER: Thanks, Bill, we perhaps have time for one or two quick questions, if there is anything. Gilles?

Discussion:

G. PATENAUDE: Thank you, Dave. Not so much a question as a comment. Just a brief explanation of what Northern Affairs under Bill's direction does. Bill has a number of geologists working with him. They are involved in doing studies of the geology in the North, and trying to identify the potential for mineral development, so that if any of you have an interest in that, in any phases of it, you are quite welcome to come to Northern Affairs and talk, at any time you wish, with the geologists that are there.

If you think there are some areas in your localities that you are interested in, and would like to get some information on it, Bill and his group of geologists are into that, and they would be absolutely delighted to give you a hand.

D. NUTTER: Yes?

D. LEONARD: Doug Leonard with the Metis Association. I was just wondering, Bill, I'm not really interested in the base minerals, I'm more interested in semi-precious or precious gemstones. Do you think there is a potential for that in the Northwest Territories?

W. PADGHAM: There is, but most of the world's gemstones come from placer deposits, weathered rocks, that are easy to get the precious/semi-precious stones out of. Our problem is that most of the Northwest Territories has very little weathered material, so that the precious stones are firmly embedded in the country rock, and getting them out is not easy. In many cases, because of their hardness and relative brittleness, they tend to break before you can free them from the rock. So that's perhaps the major problem with many of the types of things that one might find.

Also, other people in Ceylon or Australia can produce garnets and such relatively inexpensive semi-precious stones much cheaper, because they are in the soil, or in the streams.

D. NUTTER: Just very quickly, it's an unfortunate fact of nature that most of the weathered material, most of the rock that comes from the North that has been weathered, nature has transported several hundred or a thousand miles south of here.

We have a question over here.

QUESTION: Bill, I was wondering if there was any identification of coal deposits, you haven't mentioned it, and where most likely are those to be found if, in fact, they exist?

W. PADGHAM: There are some huge coal deposits, there's one south of Fort Norman, it's large, it's of poor quality. It was explored as a source for energy to pump gas along the proposed pipeline. There's also very large coal deposits in the Inuitian Fold Belt which would land in the eastern part of the country. There is potential elsewhere. There's coal in the Sweetgrass Hills, coal in small sedimentary basins within the Cordillera, a very huge one just across the border in the Yukon, just north of the Snake River.

G. PATENUADE: Anything around Fort Liard, Bill?

W. PADGHAM: Not that I know of, but there may be.

D. NUTTER: Thank you, Bill. Just a couple of points I would make as well. We've put a map up on the wall here which shows the major mineral producing areas in Canada. We'll leave it up here today and tomorrow, so anybody who wants to come up and have a look at it, and ask any questions of any of us who have perhaps a bit of additional knowledge of mining across Canada and where one finds various minerals, just ask us questions. These sort of maps are available in the Bellanca Building at a very nominal charge. This is just scratching the surface of the sort of information that is made available both through Bill's office and Bob Shank's office as well, Energy Mines & Resources. Both DIAND and EMR produce a great deal of raw material.

The other point as well that Gilles raised, that Bill's staff are particularly helpful, we often find at the Chamber we have a number of people from the communities coming in to town with rock samples, coming to us asking what is the rock, is it worth anything, and we try to give a little bit of help, but we invariably send them over to talk to Bill's staff who really have the geologic expertise and they are more than happy to lend a hand to anybody who has any questions about mining.

LEGISLATIVE AND REGULATORY REGIME - CANADA MINING REGULATIONS / COAL REGULATIONS

J. Hodgkinson
Indian and Northern Affairs Canada

D. NUTTER: Perhaps we'll move on right now. Next we have John Hodgkinson. John is from the Dept. of Indian Affairs and Northern Development in Ottawa. He is the Chief of the Mining Administration Division, and I think I will probably leave it to John to give a better explanation of his role, and the role of his group, but essentially they are responsible for the management of mining regulations that pertain to the Northwest Territories and the Yukon. John.

J. HODGKINSON: Thank you, Dave. I have been asked to talk about mining legislation and this is in the context of mining in Canada and the Northwest Territories.

It needs a little bit of defining, because there are several aspects to mining legislation. I guess Bob started off by describing generally the different processes involved in mining, and the broad total picture. Dave then gave us a talk on the importance, and Bill has just described the geological background and what there is to look for.

I guess my talk is going to be followed by a talk on legislation dealing with more of the surface aspect of what you need to know. In addition to the mining legislation that I have been asked to talk about, there is also mine safety legislation that is also mining legislation. I'm not going to try to talk about that, that's the jurisdiction of the Northwest Territories, and it only comes into play when you have an operating mine, and that's pretty late stage.

The thing that I am going to talk about is how do you, as an individual, get to own, or get the right to own the minerals that are underneath the land in the Northwest Territories. And that is the basic thing about the mining legislation in the narrower sense, and mining regulations that deal with precious metals, gold and silver, platinum, and base metals, called the Canada Mining Regulations. They apply throughout the Northwest Territories. They are basically the legislation that sets up the contract between the government, where the Government of Canada owns the mines and minerals underneath the land, and how any individual or corporation can acquire those rights. They are full of details.

I am not going to attempt in a short talk like this to cram your minds and probably get all the statistics wrong anyway, but telling you details of what you have to do. If I can give you a broad idea of why you should, if you get involved in mining, make sure that you or somebody that you can rely on, really understand the regulations and know what they are doing, and why it is necessary for you to have that understanding or have somebody who can help you, that's what I would like to do.

These regulations do not apply to land where mines and minerals are owned privately. There's not very much of that in the Northwest Territories. However, the Inuvialuit in the settlement of their comprehensive land claim, have acquired title to minerals over certain parts of their lands. Not all of their lands, but parts of them. These regulations would not, and have nothing to do with their ownership, and what they do with their minerals. And they don't give you the right to go and stake claims.

So, how do you go about acquiring rights to Crown minerals. The basic process is you go out and stake a claim, and everyone knows... there's talk about staking claims, it's popular enough. In the Northwest Territories, you can do this either yourself, or you can do it what we call by proxy, that's have somebody act as your agent, and go and stake a claim for you, or you can acquire claims by purchase or transfer. In other words, the person who has staked them, or had them staked on his behalf, can sign a document transferring them to you.

In order to acquire any of these claims, you do need a prospector's licence, and that's just obtained by application to the Mining Recorder. For a small fee for an individual, larger fee for a corporation. That just registers that person so that the Mining Recorder knows that person who is coming in to stake a claim, knows who he is and record the claim in his name.

What is a mining claim? Well, essentially, it is a rectangular parcel of land with four posts in the corners, and it requires the boundary lines between those four corner posts marked so that they can be followed in a rough way across country, and if it is a larger claim than 1,500 feet, it needs posts at not greater than 1,500 feet along its border so that people can follow the boundaries.

What does it entitle you to do, once you have staked a claim? Well, it's an exclusive right to obtain the minerals under that claim, that means, within the four boundaries vertically downwards. You then have the right, subject to, as Len will be explaining later, you have to have permission to work on the surface if the sort of work you are going to do is going to be disturbing the surface, but subject to other legislation that may affect it, you are the only person that has the right to prospect for those minerals, and if you find minerals, you can sell that claim or you can develop and mine and extract them.

There is a limitation on how much you can take under a claim. If you have a substantial mine, you have to take out a lease of that property, which is, go the next stage in ownership, it's better defined ownership before you can mine large quantities, and the limit is $ 100,000 worth of minerals in any one year.

How do you record a claim? Well, you go out. You have to mark it. I'm not going to attempt to go into all the details because that is something that anyone who's going out to stake a claim will, if they're smart, they'll have a copy of the regulations with them so they can make quite sure that they are doing everything exactly in accordance with the regulations when they go out to stake a claim.

But essentially, to record a claim, having marked it out in the ground, put in the wooden posts, you have sixty days to go to the Mining Recorder's Office and submit an application to record that claim. So for sixty days after you have staked it out and attached notices to the posts so that people can see that somebody has been there and recently marked out the ground and put in the claim posts, there's a limit of sixty days. If you don't do it within sixty days, that staking has no effect, you would have to go and start the process again.

That's so that if people come across it and want to know whether the land is open for staking, if there is markings there that are older than sixty days and there is no record that that has been recorded, then they can restake that area, because it's not recorded, it's not been claimed. So this is part of the process.

Before you go out to stake a claim, in addition to making sure you have the forms you will need to submit to the Mining Recorder to do your recording and metal tags to be put on the four corner posts with inscription on it that explains that you are the person that has been there to stake this claim. You should go into the Mining Recorder's Office and obtain a recent map, because the Mining Recorder's Office publishes maps which show, in a rough sort of way, in other words, they are not accurate maps because the Mining Recorder doesn't go out to survey these claims and put them on the map. He draws on the map a rectangle that shows you there is a claim approximately in this area, and if you have that map and you go out into the bush, then you can look around and find, there's that claim. I've found a claim post and it belongs to that claim. You know roughly that the land next to it is open unless somebody has recently been out there, within sixty days, and staked a new claim.

But you should be able to tell if it's a new claim, if there's new posts and signs of people having been working there.

So the purpose of the Mining Recorder's Office and the maps he provides is to keep the records straight so that a person who is interested in going out and staking claims now has as much information as possible and can make the right decisions in the field.

The maps are sometimes photomosaic maps, that's a whole lot of vertically taken air photographs all stuck together and made into maps so it is sort of a picture as if you were looking from an aircraft. Other maps are just line drawing maps which are sometimes clearer to see the claims on them, but don't have the amount of detail for figuring out where exactly you are on the ground.

The other way of acquiring claims is to buy the claim. What I want to stress is that the Mining Recorder is not a policeman in the sense that he is not guaranteeing that claims exist when he shows them on his map. What the Mining Recorder records guarantee is that the paperwork has been done, that a prospector has come into the Mining Recording Office and has sworn an oath. So it's a serious thing. He has taken an affidavit that he, on the such and such day, staked a claim out there in the bush, and here is a sketch of it, and he is asking the Mining Recorder to make a record that that claim does exist and that he owns it.

The Mining Recorder, of course, won't record a claim if there are things wrong with the submission, but he doesn't go out and look at every claim that is staked to make sure that the four posts are in the correct position and that everything has been done correctly. So what I am cautioning people who get involved in owning claims, buying claims, trading in claims, is that there is a certain element of "buyer beware". You have to be sure that the person you are dealing with is honest, or you have to go and look at the claim yourself, and see the claim posts.

But the mere fact that the claim is shown on a map sold by the Mining Recorder's Office, that tells you the paperwork is in order, that the claim has been staked properly and the person did the amount of work that we require each year to keep the claim in good standing, or at least it has been reported. But it is not the Mining Recorder's job to guarantee that the four posts were put in the right place.

Of course, this sometimes leads to court cases where people have not done a proper job staking their claim and two people then are arguing about whose claim is the right one. Only a court can decide that.

So you go to the Mining Records Office, you get a claim map, and you can go out and stake your claim, and you can see where other claims are staked.

I mentioned doing the work to keep your claims in good standing. Well, part of the contract with the government... the government says if you stake a claim, you spend your money, go out and put in the posts, there is a small recording fee, just a few dollars, but you have to promise to spend money or invest your time in exploring that claim to keep it in good standing from one year to the next.

So that's the contract. The government will give you the right to those minerals, provided you make an effort to work them. If you decide not to work them, and you don't come back and record any work on a yearly basis, then the Mining Recorder crosses the claim off the map and says it is cancelled.

And that's fair enough, there is no obligation. You don't have to do the work, but if you want to keep the claim in good standing from year to year, then you must do that work, and you file the reports with the Mining Recorder. The amount of work is $2.00 an acre, so a minimum size claim which is 1,500 feet, is approximately 52 acres, so you are looking at $100 a year to keep that claim in good standing.

I mentioned a lease. The leasing is very important, not only because you can't have a big mine on a property unless it's gone to lease. The lease is a critical thing in determining ownership, because in order to get a lease, one of the first things you have, well, I shouldn't say the first thing, you have to do a number of things.

You have to have done ten years of this assessment work or representation of work, the work you promised to do to keep the claim in good standing. So you have to do that for ten years, and you have to comply with all the regulations. But one of the main things that is done before a lease is issued is that it is surveyed.

This is the time when other people who have claims which may inadvertantly be partially overlapping yours, if you have one claim and another the corner crosses it, there is a question of who staked which claim first. Who has the land where the overlap occurs? Well, this has to be decided at the time the claims are surveyed.

What happens is that the surveyor surveys the boundary of the claim that you have asked him to survey that you want to take to lease, and he has to note any other claim posts in the vicinity. There is a public notice put up in the Mining Recorder's Office and you have to send notices to other holders advising them that this claim is being surveyed.

Then there is a time limit for other people who may have a conflicting interest to appeal that your claim shouldn't be granted because their claim overlaps it and they have priority. At this stage it will be decided who is right, whose claim is the one that can be recorded, and how much land is in the area of your claim.

Once you have got past that stage, the only grounds on which somebody else can claim your claim is not valid, is if there was fraud involved. In other words, if you set out and deliberately lied about the staking, and they could prove that there was deliberate fraud. Then a court, and only a court, could overturn that lease. But the leasing stage is very important, because that's the time when you can be pretty certain, as long as you haven't been involved in fraud, that the lease you get is now yours, the boundaries are surveyed, they are marked on the ground, and that's a secure title.

Up until then, it's just based on the staking, the four posts put in the ground and no one is absolutely certain of the potential ownership if there is any conflict. In some cases there is not. If you are the only staking for miles around, you've done a good job of staking, the proper posts have been put in the right places, then there is no problem. But sometimes it gets very complex, where there's old claims that have been cancelled, and somebody has restaked an area over the top of a bunch of old claims, and this can happen in some areas three or four times.

So there's old claim posts which are cancelled, and the whole area can be quite confusing. Well, that taking a claim to lease is one way of clarifying all those problems, so it is a very important stage. And of course, if you are hoping to go into production, it is necessary because it's the only way you can go ahead.

There are other ways of getting into the staking business. There is a thing called a prospecting permit. This is a much larger area than you would stake out as a claim. It doesn't give you any rights to the minerals, all it does is give you the right to stake claims. You say, well, you have the right to stake claims anyway. But what it does is, if you take out a permit, not only does it give you the right to stake claims, but it stops other people staking claims within the permit area. So it is sort of an exclusive right.

Now the Department would not issue a prospecting permit around Yellowknife where there's people out maybe staking all the time. There's a large number of claims that are active. Well, we are not going to give a company a prospecting permit there. But if you are interested in an area where there is not much activity, you can apply for a prospecting permit. It can only be done once a year, you have to apply during December, and the Department has to make up its mind what it is going to do, and issue them by the end of February.

Anyway, offhand I'm not sure if it is the end of January or the end of February but the Department has that period of time to make its decision and then it publicly announces the permits that have been issued. So that is an alternative way. Then you can stake claims at your leisure.

But that is only available in remote areas, it's a fairly large area, the average area of land is 45,000 acres. So it is for somebody who is prepared to spend a fair amount of money. You have to spend several thousand dollars in exploring, not just $200 a year for a small claim. It's only available in remote areas where there is no evidence of other people being active or showing interest. It's a way to get people to move out further.

With high costs in mining these days, there has been a significant drop off in the last year of people interested in taking out those. I think that is probably related to the fact that most people are looking for gold these days, and gold is much more specific. People seem to prefer to stake small claims, rather than explore huge areas for gold deposits. But this is up to the individual or company who is operating.

Now I was also asked to say a few words about the Coal Regulations. Coal is not of great interest at the moment to people, the world coal market is flooded, except maybe the aspect of the regulations that does allow local communities easy access to coal for local use.

So there are separate regulations, the Territorial Coal Regulations, and they have similar provisions. You can stake, in this case, for historic reasons, you stake out a lease instead of a claim, but it doesn't matter. It can't be greater than one square mile. It requires four corner posts, but no tags, no metal tags, and you just pay a lease rental of $1.00 a year, and there are no work requirements.

So there is, if you are interested in staking coal, there is a process for that. It's a separate regulation, so you have to read the other regulations.

For local use, for a community, you can acquire 100 tons of coal at no charge, and I think that is 100 tons a year. So that if you know of a coal deposit it is a fairly simple procedure to apply for a permit to remove coal for community use. The permit does allow you to sell that coal subject to payment of a fee and royalty. So you can use coal for local use and you can sell it subject to fee and royalty.

There is another provision that native peoples may take coal without any real formalities. They just apply to an agent of Territorial Lands, or the regulations provide that even an R.C.M.P. officer, for permission to take coal for your own personal use. That's not authority to start a business selling it, but if you want to burn coal for your own domestic use, you can acquire permission to remove that coal.

I've tried to give you a sense for the regulations, why we have regulations, the overview. The regulations themselves are full of details that if you go and stake claims, you need to know. If you own a claim, you need to know. And, of course, the Mining Recording Offices here in Yellowknife are the place where you can get that information, you can go and talk to the Mining Recorders, or the supervising Mining Recorder, and they will give you advice.

On the other hand, if you want to learn how to stake claims, you probably couldn't do better than talk to a prospector and see if he will give you some tips, or take you out with him staking claims and show you how to stake claims. Because the actual details of staking claims is not really ideally set up for a classroom lecture, you want to be up there doing it to learn.

So, if you have any questions, I'll be glad to answer them.

D. NUTTER: Thank you John. Are there any quick questions here? Yes.

Discussion:

D. SANDERCOCK: You mentioned that some of the Inuvialuit lands were exempt under their land claims agreement. Does this mean that the lands that aren't exempt are accessible by prospectors?

J. HODGKINSON: Yes. I'm not an expert on the COPE settlement, or the Inuvialuit comprehensive claim settlement, but yes, the two classes of lands that were granted to the Inuvialuit, certain lands included both the surface and the sub-surface, other lands granted the surface rights.

And in the agreement, there are provisions for negotiating with an arbitration provision access to the surface in order to stake Crown mineral rights and to exploit them. Basically the broad concept is that the Inuvialuit should be given an opportunity to negotiate the jobs and, of course, get fair compensation for damage to surface for access. But it is spelled out that it is not to be construed as a royalty, because, of course, the whole point is they don't own the minerals so they can't claim a royalty.

But I don't know of any, this has happened in the oil industry, but I don't know of any mining examples where there has been any negotiation, so there is no precedent to quote that I am aware of.

D. SANDERCOCK: The only thing I am familiar with is through their Lands Administration, if you want to gain access, of course, that's one thing, but if you want to mine gravel, you have to get their permission, and I don't know if gravel is a mineral as we are talking about.

J. HODGKINSON: No, basically the COPE settlement provides that minerals are the minerals within the meaning of the Canada Mining Regulations, which is your base metals, your precious metals, I presume, really, your bedrock minerals. I would think it would include asbestos and things of that nature, but industrial minerals and sand and gravel are with the surface in this particular settlement.

D. SANDERCOCK: Thank you very much.

D. NUTTER: Yes.

E. FIRTH: Your permit to prospect or stake claims. Are they only valid in the N.W.T. or does that allow us to go into the Yukon?

J. HODGKINSON: No, every province and both Territories have separate legislation. The general outline of what I have described to you applies to a number of provinces and the Northwest Territories, but any permit issued in the Northwest Territories refers only to the Northwest Territories.

The Yukon has its own separate legislation which is slightly different. You don't need a prospector's permit in the Yukon. Anyone who is eighteen years or older may go and stake claims in the Yukon without registering or getting a permit, but then there is a staking procedure, but interesting enough, because of the mountainous territory, they have a two claim post system instead of four. So there are numerous details, and each province has different systems. You have to really study the legislation for the individual jurisdiction. But the whole Northwest Territories is under the same legislation.

The Coal Regulations, incidentally, do apply to the Yukon, because the Yukon does not have separate legislation for coal. But the Canada Mining Regulations which deal with gold, silver, zinc, lead and other base metals, that's just the Northwest Territories.

LEGISLATIVE AND REGULATORY REGIME - ENVIRONMENTAL REGULATIONS

L. Hedberg
Northern Affairs Program

D. NUTTER: Any other questions? Thank you John. We will move quickly on to our final speaker of the morning, Len Hedberg. Len is Director of Operations for the N.W.T. Region with the Department of Indian Affairs and Northern Development. Len's responsibility and the role of his deparment is to administer the more environmentally related regulations dealing with land and water use in the Northwest Territories.

L. HEDBERG: Well, thanks Dave. I won't take too much of your time. As Dave indicated, I am going to be speaking to the environmentally aimed regulations and what I am using as my reference is something that each delegate should have, and certainly anyone else can get a copy from Pierre LaPorte at the back of the room, and everything I am going to say to you is included in here. It goes into much more detail what I am going to cover. Basically I am just going to highlight some of the features that the book contains.

One of the comments the book makes is that there are no less than 25 pieces of regulations or laws, etc. that set rules governing the type of development that most of us are interested in. Now I wouldn't be surprised if Dave, and some of the other representatives of the mineral industry are surprised to learn that there are only 25.

There are a couple of other books that the Department puts out such as this one that also provide information and if you would like to get hold of a copy of those, in this book there is a list of offices where you can get information on the information in this book, plus the other books that I have mentioned.

Just a few words about the Northern Affairs Program. It is part of the Department of Indian Affairs and Northern Development, or Indian and Northern Affairs Canada as it is sometimes referred to. You will see the term I.N.A.C. N.A.P. has been referred to in the past as Forestry, some of you may be familiar with that term. Of course, that's not applicable any longer and certainly won't be applicable after April 1, when responsibility for forest and fire management are transferred to the Government of the Northwest Territories.

N.A.P. will retain responsibility for environmental protection in terms of primarily land and water. Now land resources includes land disposition and this pertains to surface leases, not the mineral leases we heard John mention before, and there is an important distinction there. And land use, which, in the context of the regulations, means activities on the surface of the land in developing various types of projects, the sorts of things that are covered in page 8 in the book.

Water resources covers both inland and Arctic waters, and the responsibility that N.A.P. has includes permitting, issuing leases and carrying out inspections, and the broad enforcement of the regulations and laws that apply to lands and water.

Now in the time available I am only going to make brief mention, as I said before. One thing you should be aware of, if you will all turn to page 1, those of you who have the book, and if you don't have it, on page 1 there is a note, and it simply states, "If you are going to do anything that's covered by regulations, get a copy of the regulations". The book simply outlines a few of the details and it should not be considered to be the end authority. Get a copy of the regulations, and whatever you are doing, it's certainly wise in any case.

The book is broken down into a couple of parts. Part 1 outlines the required authorities and review processes. It starts on page 7, but on page 8, there is a chart that outlines various types of activities and the kinds of authorities that you might require.

You will notice it mentions lumbering, that will be a G.N.W.T. responsibility as I mentioned before. There are all kinds of review processes. There are several named in the book, and it might benefit, I think, to talk about the review process.

The aim of the reviews is simply to help identify values to be protected, and what kind of environmental damage or impact might be experienced as a result of various kinds of activities, and also to help identify ways in which we can reduce these harmful impacts. Obviously you can't mine without doing some disturbance. The aim, of course, is to keep that disturbance to an acceptable minimum.

Now the way these reviews identify these things is through such processes as community consultation with community organizations such as DIZ groups, Hunters and Trappers Associations, and by consulting with other environmental agencies such as the Government of the Northwest Territories Wildlife, Dept. of Fisheries and Oceans, Canadian Wildlife Services, and a number of others as are spelled out in the book.

Part 2 goes on to deal with required procedures. On page 10, land use is discussed briefly. What the land use permit entails, the kinds of operations again that require a permit under the Territorial Land Use regulations. On page 14, it deals with water use, regulatory requirements for water use, and the deposition of waste.

You will note that it refers to Water Authorizations. That is no longer a valid means of obtaining permission to use water. The court has decided that Water Authorizations are illegal. If you have to get some kind of permission, it will be a Water Licence that will be issued by the Water Board.

The Licence conditions are enforced by N.A.P., but the Water Board itself, through the process outlined in the book, sets the conditions in the Licence, and they are the authority, and the only authority, under which a Licence is issued under the present legislation.

Land tenure is referred to, and that simply deals with the right to surface use of the land. That means you can go on the land and do certain things. Land tenure, as different from land use, means it gives you a long-term assurance that you can continue those activities that you have undertaken.

Keep in mind the difference between a surface lease and a mineral lease. One does not equate to the other. For instance, you cannot extract minerals under a surface lease. If someone else holds surface rights, you have to negotiate access to exercise your rights under a mineral lease. John spoke of this briefly in terms of the Inuvialuit final agreement.

There is a brief section on quarrying, what a quarry permit is, what materials are covered under quarrying. And there is also a section on lumbering or timber-cutting, which will become a responsibility of GNWT. It has some validity in mining, props, lagging and those kind of things, and if you are in that kind of an operation, that is the kind of information you would want.

There is also a section that deals with mining, the very topic that John spoke on, and I will do no more than mention the fact that there is some detail in the book on that topic.

In Part 3, there is a resume of the pertinent legislation. It starts on page 26, and it outlines some of the various laws and regulations that govern activities that mining might be involved in. Keep in mind that's not a comprehensive list, there are other pieces of legislation, such as the Fisheries Act, that may or may not affect you if you are involved in a mining operation.

So what I have done is simply identify parts in the book that will be of interest to you. I suggest you use the book and take to heart the note regarding the need to refer to the legislation. Part 1 covers the various kinds of reviews that are designed to identify and reduce environmental damage. Part 2 deals with the kinds of permits, licences, or leases that are required to carry out operations, and Part 3 gives you a list of the laws and regulations that pertain.

On page 30 you will find a list of Northern Affairs Program offices where you can gain more information, be it written or verbal, or you make application, those kinds of pieces of information.

I'll be pleased to answer any questions at this point.

Discussion:

D. SANDERCOCK: With the pending land claims settlement in the Northwest Territories, specifically the western, is there any modification to the issuance of any permits at all? Does the pending land claims settlement stop the process at any point of any of these particular areas we are talking about?

L. HEDBERG: Well, as John mentioned earlier, depending on the terms agreed to under the negotiations, and the kind of legislation that is passed, and again I refer to the Inuvialuit final agreement. They issue land use permits on land for which they hold fee simple title. They hold surface rights to some of their lands, they hold surface and sub-surface rights to some of their lands, and this is a component of the agreement, and that is something which is negotiated.

Where title to the land is transferred to someone other than the Crown, then that other entity becomes the owner, and then Federal legislation of this nature wouldn't apply. So the process would be different. It might be something like the one in the Inuvialuit final agreement, where there is a screening committee, etc., and they actually issue the permits.

D. SANDERCOCK: No, I am talking about a pending land claim, I'm not talking about one that's settled. If I made application, just to give an example, for lumbering in woods around Fort Good Hope, and I met all the criteria that were in the regulations and procedures, would the pending land claims settlement have any effect upon my application?

L. HEDBERG: OK, I guess we will stick with the timber regulation aspect of it, and that is going to be, as I say, a GNWT responsibility. Where there has been an interest expressed in the timber, in the land use permit consultation, which is still required even for a timber permit if you are going to do any work with machinery, the local interest groups would have their opportunity to express that interest.

Some areas, and I am not sure of any specifics, but there could be reservations, if you want to call it that, on the disposition of land and or any of the resources on the land.

D. SANDERCOCK: So there is this land use consultation. I presume that applies to everything and it's not just for lumbering or forestry. I'm sure that if I wanted to put a resort on the lake around Inuvik, that wouldn't be in the Inuvialuit land claims settlement, and I wouldn't have to go through a consultation process with the Dene/Metis of that region?

L. HEDBERG: It's part of the Federal/Territorial Land Advisory Committee and there are details on that in the book as well.

The land use regs speak to environmental matters, although there are other obvious concerns where a long-term lease such as you are speaking of would have to come under a slightly different, comes under a different committee, and it would be one of the considerations. Advice would be sought, and a decision made on the basis of that advice, from affected users and potential users.

D. NUTTER: Yes, go ahead.

R. AITKIN: Robin Aitkin, Dene/Metis Negotiations Secretariat. With an agreement in principle, all Crown lands will be frozen at that time, if that clarifies a bit more, if that's what you mean. But in the meantime, everything else is still...

D. SANDERCOCK: So until that point, I could run out there if I wanted to and then do it, if I follow the regulations.

D. NUTTER: Gilles, go ahead.

G. PATENAUDE: I would like to add a comment. You mentioned Fort Good Hope, and that's a special area in a sense, because our Minister has specific agreement with Fort Good Hope regarding a large portion of land that they refer to as "their" land area of interest under the land claims. The agreement basically calls for consultation to take place between proponents, government and the community for any developments that could take place.

There is also what we refer to as a moratorium on lands, but that only currently applies to oil exploration agreements.

In regards to the land claims specifically itself, the way that it appears to be moving now, and Charlie Overvold or somebody from the Secretariat may be able to help us on that one, but I understand that the movement is more towards what is referred to as generalized interest, in which rather than claim specific underground resources in certain areas of their claim, they might be drawing an agreement with the government by which they will have general interests, where any development in the future that government will be required to give a certain percentage of the royalty, or something like this. That has not been decided yet, but it seems to be the area where they are going.

Now in regards to the surface access of those lands, it's possible that in the future claim they may come up with something very similar to what the Inuvialuit have done. In other words, proponents would be required to discuss with the claimant and the owner of the surface just what type of access would be available. But there is also the recently published Northern Mineral Policy approved by the Federal Cabinet in December, which calls for the development, in the future, of what is referred to as a Severed Estate Act, which might give general rules on surface access, but we don't know how long that is going to take.

D. NUTTER: Yes, Pat.

P. SCOTT: Just a couple of comments. I think it is unfortunate that we are a little pressed for time here, because I think the environmental regulations as they now exist in land use permitting as it now currently exists, are areas where there needs to be a lot of discussion. These areas are the only areas in which communities and regions have an opportunity to interact with industry in exploration activity and development activity.

So, I am disappointed that we don't have more time to get into some detailed discussions. As Gilles well knows, our organization, the Deh Cho Regional Council, have had many long discussions on the regulations and some of the inadequacies of the current regulations to allow community organizations to address their specific needs as companies come in and request permits to do activity.

I just don't see that we can have an adequate discussion on it. The other comment I would make is that from a layman's point of view, and someone personally who is concerned to some extent about the environment, I think it's fair that the impression the general public has is that the industry has not dealt with environmental concerns extremely well, and I would certainly appreciate an opportunity to have some discussion here on environmental issues, particularly water issues.

D. NUTTER: Thank you, Pat. Particularly with respect to the second point there, I am not sure how well that fits in to the theme of this conference, but, having said that, I would leave that to the delegates at large to decide, but perhaps we can grapple with that one a little bit further on down the road, and see if there is a particular point in the discussions where that would be appropriate to discuss.

I think what we are trying...I will acknowledge that we are looking for opportunities to involve the native community in the mining industry, and I suppose, to be honest, that has to involve more than economic involvement, there has to be a total involvement. So that does open the door to some discussion of the issues that you have raised, but perhaps in light of time right now, we won't get into a long discussion around the table on those issues. Hopefully, time will free itself up over the next day and a half.

Are there any other questions or comments? Yes.

QUESTION: Under the land tenure leasing policy, can an application for mineral access rights be revoked?

L. HEDBERG: The land tenure generally refers to leases, which are long-term occupation of surface land. Access is generally under a land use permit, which is for two years, although there are provisions for extension.

If you have a road that is going to be there for a long time, there are perhaps two mechanisms. One would be to take it to lease, the other would be to transfer to the GNWT and it then becomes Commissioner's Land, because public roads are Commissioner's land.

A land use permit, if that is the mechanism under which the road is authorized, yes, it can be revoked for non-compliance, completion of the project, those kinds of things. Does that answer your question?

REPLY: Yes.

D. NUTTER: If there are no further questions, we should break for lunch. I would like to get us back on track and that still does give us a little over an hour, so if we could all be back here prior to 1:30 to start on time.

D. NUTTER: If we could get going, just a couple of things. That table at the entrance seemed a little bit bare, so we have picked up a number of publications and put them out there for anybody who would like to pick up a bunch of paper, and I think that a lot of it is quite informative.

First off, Len Hedberg had the publication which reviewed environmental legislation. Further to John Hodgkinson's talk, there is a publication called "How to Obtain Mining Rights in the N.W.T.", and essentially what this is is a synopsis of the Canada Mining Regulations, and that's available.

Again, it doesn't replace looking at the Mining Regulations in detail, but it gives one an overview of the regulations.

Several other publications giving some mining facts and figures, one put out by DRIE on mining in the N.W.T., some facts and figures on that, and one put out by DIAND. It dates back to 1984. The 1985 should be out soon. Actually, it's quite overdue, but it gives some mineral statistics for both the N.W.T. and Yukon, both production statistics, as well as a very brief overview of where mineral exploration is taking place in both Territories.

Another publication by the Mining Association of Canada, giving mineral statistics Canada-wide; we have copies of the Northern Mineral Policy put out by DIAND just in December. And finally, there is a copy of another publication by DIAND put out a number of years ago, but it still is quite valid, and it's "Mines and Important Mineral Deposits in the Yukon and Northwest Territories". It says for 1982. There haven't been a lot of major discoveries since 1982. There have been several, but a lot of properties which are now receiving a good deal of attention are actually referred to in this document. And in the back of the document is a map. I have put an example of it up on the wall here, and it's the map on your left. It cites many of the major mineral deposits that were known in 1982 in both the Yukon and Northwest Territories. Again, this publication is available at the back of the room.

I see also that Pierre has put up a number of maps along that wall which are mineral occurrence maps for various parts of the N.W.T. Again, before and after the sessions, and during the coffee breaks, Pierre and a few other people in the room who are knowledgeable, Wayne Wagner, and perhaps myself, can answer any questions relating to any of these maps or any of these publications.

One other small publication just describing mining in very brief detail put out by the Mining Association of Canada.

MINERAL EXPLORATION AND DEVELOPMENT - WHY, WHAT AND HOW?

P. Laporte
Northern Affairs Program

D. NUTTER: So, kicking off this afternoon, our first speaker is Pierre Laporte. Pierre is a former District Geologist with Bill Padgham's department in DIAND. He has now changed roles, and is Non-Renewable Resource Economist, and he serves under Gilles Patenaude in the Indian Affairs Department. Pierre is going to talk to us about the whys, hows, and what-fors of mineral exploration and development. Pierre.

P. LAPORTE: Before I talk about mineral exploration, I would like just to say one little point on housekeeping detail. Those delegates from out of town, can you make sure that Libby gets back the last sheet of your ticket for processing your travel expense claims.

OK. Mineral Explorations and Development - Why, What and How? Well, Why is pretty straightforward. All mineral deposits are finite. Each and every one of them runs out of ore after a while, whether it's one year, or a thousand years, or more likely a hundred years. So there is a need to find new deposits to replace depleted ore bodies.

The population is increasing. The demand for metals is increasing. So again there is need to find more ore bodies to supply this increasing demand. Also, the demand changes because of replacement of some metals by substitutes. I think there is a lot less zinc being used in cars now. They use plastic instead, so they can charge you more when they replace your bumper and things. There's also new uses for metals. A few years back, nobody would have looked for beryllium, and now they are planning to mine some in a few years. And there is also sudden increases in use of some metals. There is nothing like a war to increase the need for copper and brass, so we need to discover new sources of metal bearing minerals on a regular basis.

Now, what is mineral exploration? Mineral exploration is the search for concentrations of metals or minerals containing metals which are large enough and contain enough metal to be mined at a profit. The profit aspect is one thing that has to be kept in mind, because you can have some pretty large deposits, but if they are too far away from transportation, or there is not enough metal in it, you cannot mine it for a profit, it's not valuable.

Small amounts of metals occur in all rocks. The formation of mineral deposits or orebodies is essentially the concentration of metals from large areas or large volumes of rocks into small metal rich areas. As you can see from the table here, most rock contains about .005% copper, but an ore body will contain .5 - 3% copper, so you have to concentrate the copper in the rock from 91 to 550 times before you get an orebody.

Fortunately for geologists and other people involved in mineral exploration, the concentration of these large amounts of metal in one part of the rock changes the character of the rock. The rock is now...the physical and chemical characteristics are now unusual, they are anomalous as Bill Padgham was saying this morning. And so if we can measure the physical and chemical properties of a rock, where they change is where we might have an ore body. There is something different, there is something anomalous there.

So, mineral exploration is essentially looking for anomalies in the rock and then trying to determine whether they are caused by concentrations of metals, or concentrations of minerals that might not be valuable. So that is what exploration is all about.

There are a couple of ways that concentration can occur. Sometimes the rock is melted, it comes back out as volcanic rocks and the metals in the rock are concentrated in various parts of the volcanic sequence. This slide gives a geological idea of what a typical Archean or old volcanic pile would look like and where we'd expect to find gold/copper and copper/gold, nickel, zinc anomalies or showing or even orebodies. It's based essentially on work done in the Abitibi belt in Ontario but it seems to be a pattern that can be followed essentially throughout all the volcanic belts in the world.

And at times, concentration is in veins like those big, black streaks going down. It could represent Con or Giant and it's essentially water circulating down these fractures that leaches the metal from the rocks around it and then drops it in the fracture, and that's where you get your orebodies in the fractures.

So the steps in mineral exploration. As Bob Shank mentioned earlier, the first one is essentially obtaining risk capital, obtaining money that the company is willing to spend to find a mine and if they don't find it they lose this money. Exploration is fairly costly. It costs, depending on where it is, from $500 to $1,500 per person, per month to maintain a person in the field, to pay his salary and everything. So a 20 person camp costs would cost anything from $200,000 per month or up to $3/4 million per year to do exploration.

Sources of funds. The money comes either from operating mines or oil and gas sales if the company has already got operating mines, or the sale of stock in the stock market. Dr. Dreschler will talk about this later on today.

The second step in mineral exploration is selecting the targets and areas. Exploration managers must decide what metals to look for. Right now just about everybody is looking for gold because the price is such that there is a good chance you can sell the gold that you will find and make a profit out of it. Sometimes it's looking up ahead and seeing if there will be new uses found for rather unusual metals and then you can get involved in that situation if you happen to know where there is some of that metal.

Sometimes companies restrict themselves to certain type of mineral. Companies that mine a lot of zinc might want to remain in the zinc exploration and zinc mining business because they've got all the contacts and the markets.

Oil companies went into the mineral exploration business and concentrated on exploration for other energy producing minerals like coal and/or uranium. On the other hand, other companies might decide to move away from the copper or the zinc business because the prices are low and go into the gold exploration.

The next thing to decide for the exploration manager is where to look for it. Different types of orebodies occur in different rock types or structures. For example, Lupin Gold orebody is in iron formation. The Cullaton Lake orebody was also in iron formation. Con and Giant gold orebodies are in fracture zones and volcanic rocks and so on and so on. Usually the metal you decide to look for, there is a certain set of either rock types or types of structures that would probably contain this metal so you concentrate on those areas where you know those structures and those rock types are present.

To determine where to look, the exploration manager and his geologists will study geological maps like this one. These are produced by the government. This one was produced by the Geological Survey of Canada. Essentially they indicate where what rocks were found as they were walking back and forth or flying over the area. As I said, this is from the Cullaton Lake area. Cullaton Lake Gold Mine was in the orange stripes there, that's iron formation. So you can see that just by looking at the geological map you can get a good idea of where to look, either along strike further to the northwest where there are more of those orange stripes which obviously indicates there is a possibility for more Cullaton type gold deposits in that area.

These maps, as I said, are prepared by the Federal Government, the Geological Survey of Canada and/or the Provincial Geological Surveys or, in the North, it's the Northern Affairs Program, Geology Section, who prepare geological maps such as these. So exploration geologists look at these maps and determine where there is a good possibility to find ore deposits.

Another thing to keep in mind is that the metal concentrations must be mineable at a profit so the exploration manager has to consider things such as cost of transport. The furthest away deposits will have to be richer or bigger because it will cost so much to transport it to the road where they can drive it to the market. Also he has to consider the political climate of the area, the amount of taxes a company will have to pay to work in an area or if they started mining in an area, and also the kinds of regulations they have to abide by.

Next, the manager must study these government regulations and ensure that they get the right permits and licences that are needed. Like Len Hedberg was saying this morning, people working in the North need Land Use Permits and so they've got to apply for these before they start working on the land.

The next step, or the first step in mineral exploration, you start off with a large area of interest, then you do reconnaissance exploration which is sort of using systems that will measure the physical and chemical characteristic of the rock but do it quickly. These are usually put on board helicopters or airplanes so they cover a lot of ground fast, and then you can select those areas that have anomalies, that seem promising, and then reject the rest of the area. You don't want to spend too much money in areas where there are essentially no anomalies, nothing unusual, because you know there are probably no deposits there.

Then you get into local areas of interest, the smaller areas. At that point, you either acquire the mineral rights by staking or prospecting permit. Sometimes you've done that before you even start the reconnaissance exploration, but at one point in there you have to acquire the land so that nobody else can come in and stake your anomaly and take over your rights to those minerals.

Then you do detailed exploration. Again, you use the same instruments but they are smaller, they are carried by people and they walk from spot to spot so they know where the anomaly is, where the possible deposit would be. That allows you to pinpoint drill targets which are interesting, and start the final stage. You've got something that looks really interesting and the only way you can find out more about it is by drilling, sampling it underground. And then you do some physical exploration. If there is not enough metal, you reject, and if there is enough you get into an orebody and then you get into development.

These are examples of the planes used in reconnaissance geophysical surveys. They measure the physical properties of the rock, how well it conducts electricity, whether it is magnetic or not, and so on. You can see the three big loops at the front of the airplane, in orange. Those are coils, they pass a current through that and it affects the rocks that they measure. There is another coil that measures this effect, the electro-magnetic radiation they emit, it measures the effect on the rock and that tells them whether there is a possibility of metal concentrations.

Sometimes it's in this big bird flown on a helicopter. And this is essentially what you get. Those lines going up and down are where the planes are flying and the balls, the round things, are where they found something unusual about the rocks. The measurements are different from the rest of the area. Those are anomalies. They could be caused by metal concentrations or they can be caused by mineral concentrations of no use like graphite which usually gives you nice anomalies in there but it's useless.

This reconnaissance work, whether it be geophysical like the first one, or geochemical where you have a helicopter flying from lake to lake and youpick up samples of water and bottom sediment and then you analyze those to see if there are metal concentrations in or near some of the lakes. Most of that is done from camps which are set up using fixed wing access to the lakes or in the winter it would be on the ice. And here are a number of typical camps. There's a Marline Oil Company Camp near Baker Lake. It think this is a Suncor camp not too far from Baker Lake. You will notice the lack of trees. I'm obviously from the eastern part of the Territories.

So these surveys indicate where there are anomalous areas. You have to go down underground and determine exactly where the anomaly is. Before you can drill, you've got to really narrow is down pretty close. This is an example of a grid set up on an area where there was an anomaly. You see the pickets, there? They put those every 50 or 100 metres, then they stop at each of these pickets and take a reading with a variety of instruments. There is an electromagnetic instrument. It's a big coil again, sort of like the coils on the airplane, but this is hand carried. It gives them an idea of where... it sort of increases the accuracy of location of the anomalies.

This is the result of a geochemical survey. They stopped at every point on the grid and picked up a sample and analyzed it. You can see where there are metal concentrations at the northwest corner there. That would probably be an area that they'd look at in more detail. They also prospect the area. They look for any rock that looks sort of anomalous, that has got metals in it. They turn over all the boulders they can find when they are prospecting in detail on the grid to see if they can find a reason for the anomaly that they found. Usually they are trying to find a reason, either it's really metal-bearing rock that's in there or it's useless rock that just has some peculiar signature and they can decide whether to keep working at that anomaly or not.

The next step is to start physical work. You can see that they blasted a few trenches to try to get at the cause of the anomaly, to get to the bedrock to see what caused the anomaly. It also allows them to pick up fresh samples of the rock that might have caused the anomaly.

Then the next step is to go diamond drilling. You found the anomaly, you know where it is exactly on the grid because you've taken all these surveys at these specific points, then you go in there with a drill, you start drilling. You are trying to sample the rock underneath where you found the anomaly to see if that rock, that piece of core that comes out of the drill, will contain the metal or the minerals that caused the anomaly. Usually you test an anomaly with one or two holes. If there is no metal bearing rock in the hole, you just walk away from it. Usually you found a reason for the anomaly and it's not a metal deposit. If it is metal deposit, then you continue on drilling.

There are a number of drills. This is a close-up of a drill. There is a pipe, the core barrels that go underground and sample the rock. This is a smaller drill. This one was dragged across the rocks with three-wheel Hondas and skidoos. And there is a man inserting a probe to go down the hole. This is a uranium exploration property. They send a probe that measures the amount of uranium as it goes down the hole so they know roughly where the orebody is if there is one in that hole.

There are a number of holes drilled from the same position. One went that-a-way to the right, and one went straight down, and one essentially went a little bit to the left. So once you've got a hole with metal in it, you drill below it and on either side of it to see how big your deposit is, and you keep doing that until you end up with a whole string of holes.

This is at Cullaton Lake while they were defining the orebody. You can see all these casings sort of going off into the distance. They were drilling at about every 25 metres on the orebody to define exactly where the ore was in this rock area.

This is a core from Lone Gull. As you can see they've done a lot of drilling. They've been at it for about 5 years now trying to define the limits of their orebody.

Once they define the orebody and if there's enough ore in the body as determined from the drilling, and if the price of that metal is worth it, they might decide to explore it underground to see how well the rock holds together, what kind of mining methods they will need, and to make sure that the assays they got from the drill core represent large enough areas to be worth mining.

This is the adit at Cullaton. It's essentially a winding tunnel that goes into the ground, and this serves as their main exploration entrance and also their mining entrance. This is a close-up of that addit. There is a big fan pushing air so that the guys can breathe down at the bottom. Sometimes, depending on the type of the orebody, they might have to use a shaft which essentially is just a straight up and down hole in the ground. Every 100 feet or so, they make a pocket on the side of the shaft and develop a drift which goes into the orebody and then they can sample the orebody and that's where they will be mining from.

The next step... by the time they start going underground, the company has had to invest in developing a fair large camp, a more stable structure than a bunch of tents because they like the work to continue over the winter and they need storage for all the heavy equipment that they use. And then if they decide to go ahead and mine they'll add to the structure. They will need a mill, ore storage or a chemical storage building and living quarters.

This was a very brief description of exploration and development. The next three talks will discuss the development aspects of mining exploration and development in more detail and they will be given to you by people who know all about it, which should be a change from what you've just had.

The various steps I mentioned can, depending on the original size of the target area and the company's philosophy, take from three to ten years and cost $3 to $20 million. That's just exploration before you get to the pre-development phase.

What opportunities are there for participation in the exploration phase? Most of the work involved in reconnaissance geophysical surveys, and even geochemical surveys, is fairly technical. It's got to be done by people that know the machines, or know what they need to sample, and it's analyzed by people that have studied geographics for a long time. Most geophysical surveys are done by specialized contractors who own the airplanes with the funny loops on the front. However, there are opportunities as camp labourers, cooks, expediting firms and airline companies to take advantage of the need for setting up these camps.

Camp construction is one business opportunity. In the east, a Baker Lake company used to make Hercules airstrips and set up camps for companies. They'd go out in skidoos and bombardiers and set up the Hercules airstrips on the lake and then build a camp in early spring. Of course, this is great when there is a lot of exploration. When there's is little exploration, well, it's not a very steady job. It can fluctuate a lot.

In detailed exploration, there is a greater requirement for untrained labour to do some of the surveys. In geophysical surveys nowadays, the instrument sort of reads itself. You just push a button, so you can get more and more people involved in this than you used to before. A few years back, you had to play with the instruments and play with the knobs until you finally got something that made sense, so you would have had to know what made sense.

By the time detailed drilling is undertaken, a fair number of semi skilled drillers' helpers are required, as well as cooks and camp labourers, because like at that large Urangesellschaft camp, there was a fair amount of work in maintaining the buildings, carrying the core and splitting the core, and so on.

The development stage, depending on the location, requires heavy equipment operators, trucking firms, construction crews and miners. These requirements will probably be discussed by the next speakers.

In conclusion, mineral exploration is a fairly complex endeavour which at the start is really the province of trained professionals. But in the later stages, the requirements for semi skilled and unskilled labour increases rapidly. In other words, opportunities are few at the beginning of the exploration programs but increase as the company gets closer to going into production. Thank you.

B. NUTTER: Thanks Pierre. Do you have any questions of Pierre about this stage in the exploration in the mining business? As he said, the next several speakers are people who have a great deal of expertise in the development and operation of mining properties, but certainly if anybody has any questions now of the exploration phase, Pierre would be happy to answer them. Okay, thank you Pierre.

MINERAL DEVELOPMENT NORTH OF 60 - SPECIAL PROBLEMS

R. Douglas

D. NUTTER: Our next speaker is Rod Douglas, and Rod is a former executive with Cominco, formerly President of Pine Point Mines, and a Vice-President with Cominco and is now a director of several junior firms including Treminco Resources who are operating just outside Yellowknife. During his years with Cominco, Rod developed quite a bit of expertise and experience in managing operating mines in the North and bringing new mines onstream, such as Polaris and from this, as I say, Rod has gained quite a bit of expertise of some of the challenges to be met in mining north of 60°, so I'll turn it over to Rod right now.

R. DOUGLAS: I was thinking as I came into Yellowknife yesterday, it's great to be back. Our family lived here from '75 to '80, which was during the heydays of the Berger Pipeline Inquiry, lots of activity. Stu Hodgson's term as Commissioner, or as some used to call it "the reign", and, of course, the land claims debate was in full swing. I guess things have changed a bit in the last five years. You have an oil pipeline into the Wells now in the North. Stu Hodgson is gone. He is running our transit system down in Vancouver. And also land claims has now progressed to where you are trying to decide where to draw that line to divide the Territories.

One thing that didn't change very much was the rush hour at noon in Yellowknife. We used to refer to it as a rush minute, because it only lasted about a minute. Now it looks like it's lasting about 10, so maybe that's progress, maybe things have improved. Maybe. I don't know whether that's progress.

The topic I was given was Mineral Development North of 60° - Special Problems, and rather than talk about prolems, I think I'd like to talk about some opportunities that I see. As you all know, the Northwest Territories makes up 34% of Canada's land mass and it only has about .2% of the population or 50,000 people. As a result, any mineral exploration and developers in the North had to be innovative. They've had to use innovative ideas to make anything work up here. You just couldn't use the same things you did down south and bring them up north and make them work. And I guess that's one thing you learn when you spend some time in the North and I've been up here since 1964 for quite a bit of my career.

The North is unique and you better not forget it. There's something about it you have to admire and when I talk about innovation I guess I don't have to tell the people that are native to this country that they are innovative because they have survived for centuries through being innovative and I think it's something we should pay attention to.

I would just like to digress and recount a true story that maybe will help describe this point about innovation, or being able to survive.

When I lived here, I was Chairman of the Liquor Licencing Board for a while, along with five other members. We used to have to visit the communities periodically. On one of these trips, coming back from Baker Lake, we were in a small twin-engine plane that developed some engine trouble. We weren't sure whether we were going to get home or not, or whether we would spend a cold evening out on the tundra somewhere. It was in the middle of January, and things looked pretty cold and miserable as we flew over this country. We finally hit the treeline, and I noticed that Dave McNabb and Bill Erasmus who were with us started to break out into smiles. Dave broke the silence by saying "Well, if we go down here, I know I can survive, because I grew up in the bush."

So my point is that the people who live here have had to be adaptable and innovative to survive. I think we can learn from them.

I would like to describe some of the innovative things that have taken place in the mining industry that has allowed mineral development to go ahead.

The company I worked with before I retired in 1985 was Cominco, and it had a long history in the north. It really started up here in the 1920's. In those days, there wasn't much in the way of transportation facilities. You travelled everywhere by water, usually. And the fellow who was in charge of mining and exploration at that time thought he could use airplanes to get around.

So as a result, the company went into the airplane business, and acquired six airplanes. He didn't stop there, because he said, "well, if I'm going to have to have guys to fly these things, they might as well be engineers and geologists." So he found some engineers and geologists who wanted to learn to fly, and taught them how to fly these airplanes. And so they travelled throughout quite a bit of the North, as far up as Coppermine, in the late 1920's and the early '30's.

There's an article in a recent "Up Here" magazine, Feb/March, that says that they flew something over a million miles in the 12 years that they operated up here.

It was through the use of airplanes that really the Con Mine was discovered back in the '30's. People were able to get around.

I think another example of the innovative kind of thinking that has gone into the north is the Road to Resources program. I know some people damned it for opening up the north, but I think Diefenbaker's Road to Resources thing was really the first thing that allowed the Pine Point Mines to develop in 1964, when the railroad went through.

Now that mine had been discovered 35 years earlier, and even before that the people at Fort Res knew that there was lead lying around on the ground there back as early as the 1890's, so that the time from discovery until a mine goes into production quite often can be a very long time.

But when somebody comes along with some innovative ideas, you can trigger something that will start going.

Pine Point right now is nearing the end of its life. It has run for over 20 years, and it has used a lot of innovative ideas, such as drag lines and deep well pumps to pump down the water, but now they are faced with the problem that the ore gets deeper as they go off to the west, and as a result, the costs of pumping that water are becoming just too much to bear, particularly with the prices for lead and zinc the way they are now.

Of course, there may be some clever person who will come up with an idea of how to keep the water out of those pits, and if that ever happens, I'm sure somebody may be back in there at it again.

Another operation that I think commands our attention is Echo Bay Mining Company which started up in the 1960's on Great Bear Lake, and used water transportation to get their material in there. I remember the time that Lupin was picked up by the company. Talking to John Zigarlik about it, the question that everyone asked at that time was "How are you ever going to develop a mine that is 250 miles northeast of Yellowknife and it hasn't got a road, hasn't got any water transportation, it just looks like a crazy idea."

Well, again, here was a man that loved airplanes. John had been in the Air Force. He thought he had an idea that he could use Hercs and Convairs and large aircraft to fly a whole plant into the site. And Echo Bay pulled it off. The figures I have are that he moved something over 32,000 tons of freight into the minesite, all by air.

So again, it was one guy's vision that started all this. He had an innovative idea, and he said I'm going to make it work somehow.

Well, I noticed recently that Echo Bay are still using some innovation, and that they are now using winter roads, ice roads, to move the heavier material. According to one report I saw recently, they have saved over $4 million in one year in moving it over the winter ice road.

So you can't stop in this innovative thinking. Nanisivik Mine was another one that used a lot of innovative ideas, and with Jim Marshall here, I'm not going to steal any of his thunder, but if you want to ask him about some innovative ideas, I crawled around with Graham Farquharson down where the permafrost had melted under their mill, and they used some very innovative thinking to keep that mill from sinking into the permafrost.

You run into these unusual problems in the north but if you use some smart thinking, you can usually get around them.

Lastly, I would like to mention Polaris, because it's the one I am most familiar with, having been involved in the early days of the development of that property.

It was discovered in the early 1960's. It is on Little Cornwallis Island, north of Resolute Bay. It is about 900 miles from the North Pole if anyone wants to know that. It's about 76° North Latitude, and so here was a huge challenge for anyone who wanted to develop this operation. The distance was really mind-boggling. The climate is not the best. The wind seems to blow most of the time except when it decides to change direction, and who would ever want to live up there, or even work up there?

So when we were thinking about developing this mine, one of the things we ran into was that when you are doing construction in the North, in that area, that for each person you have working building something, there's usually one other one somewhere either keeping them warm, or making the food for them, or providing some sort of service, by flying things in and out.

So the cost of building anything on site was very horrendous. So the people who were involved in this, and it was Hank Giegrich who was the Manager on the job in the early days, and Derek Rhodes, a chap with Bechtel, and myself were brainstorming one day about what we were going to do to try and get around this business.

We had used a ship in Greenland when we put the Greenex operation into production. We had used a ship for accommodation. We got the C.D. Howe and hauled it up there, and used it as a floating hotel. We said well, what's wrong with building a plant on a barge in southern Canada someplace, and towing it up there.

Well, the idea sounded crazy, but when people stop and think about it, it's not really as crazy as it seems. You save quite a bit on costs of building. The problem of getting it up there is another you have to deal with.

But one of the things I have learned in this business is you don't invent the wheel all over again. If someone else has done something, you go and check it out.

We had heard that Ludwig had built pulp mills on barges in Japan, and had towed them over to the Amazon River, and was running a pulp operation just off the Amazon. So we arranged to go down and have a look at it. And from that trip we learned a few things about building barges, or building plants on barges.

We also visited the North Slope and Prudhoe Bay, and looked at how they had used modular construction and built it and towed it up there, and used creepy-crawlers to move it on the shore, wherever they wanted to.

This is in effect what we did. We built the whole plant on a barge which is about the size of a football field, six stories high, and towed it from Trois Rivieres in Quebec about 3000 kilometers up to the Arctic and ballasted it down, and it sits there. And I think it was operating yesterday, according to Dennis Bergen who is sitting down there, and works up there. If you really want to get the scoop on Polaris, talk to Dennis. Don't talk to me, I haven't been there for a couple of years.

But the reason we did that is that that plant would have cost us $60 million to build it on site. It cost us $40 to build it in southern Canada, and that includes the tow and all the rest of it.

The other thing about it is that it saved us a whole year in construction, because of the short sea-lift season that we had in the Arctic, we couldn't have moved all the material in in one year to build the plant, so it would have taken two. As a result, we saved $20 million, and brought the plant into production a year early.

The fellows at Polaris haven't stopped thinking about what they are doing in terms of innovative ideas. Now they are into a gain-sharing scheme where the people that work there on site share in the profits from extra production, better recoveries, and better costs. This is a scheme which brings people from the janitor right on up into the whole operation, to where they...if they produce a little bit more, and use a little bit more effort, it benefits them in their pocketbook, and I think last year they added 15% to their annual wage by doing that.

So again, these innovative ideas are what you need to make the North go. In closing, I would like to offer you some words of advice, people who are interested in investing in the North, or being part of development in the North and the mineral industry.

I think you can be successful up here, but I think you have to follow, as I see, four basic rules. The first thing is you have to be innovative. You have to think up some new ideas. If you are going to do it the same way you did down in southern Canada, I think you can basically forget it unless you are very fortunate, and have a very high-grade operation.

The second thing, is you have to be adaptable to change, because you are going to run into things where you have to adapt. So I think you have to be able to do that.

The third thing I think you should do is use the advice of the people who live up here. I will give you one example of that. When we were building Polaris, there was a lot of pressure on us from Ottawa, and also from the Territorial Government, to put in a townsite, because they had built one at Nanisivik. We had the gut feel that would anyone want to live on Little Cornwallis Island? Well, when you are arguing with people in Ottawa ,and Yellowknife, you are not doing very much other than just sending words back and forth. We got the idea that we would take two representatives from each of the communities along the Arctic coast, and there is about seven or eight of them, fly them in, and say "You tell us whether you would want to live here, and we'll listen to you". Well they looked it over, and had a big meeting about it, and discussed it around, and they said "No, the hunting and fishing look terrible, and besides it wasn't a very nice looking place to build a townsite".

So going back with that, we convinced the governments not to build a townsite, so we used the rotational scheme, and I am sure if I asked them today, they would be very happy that there isn't a townsite at Little Cornwallis Island with all the costs that go with it.

So again, here is an example of using the advice of the people who live up in this country.

The fourth thing I think you have to remember is that development is going to alter the environment. No matter what you do, you are going to change it a bit. But with proper planning, I think you can keep it to a minimum.

I guess what I am saying is that, rather than special problems for development in the North, I see special opportunities, but I think it is only available to those who are prepared to look at new ways of doing old things.

I know Canadians are not noted for tooting their own horn, but I believe we can toot our horns a bit about what has happened in the North, and I certainly am proud to have been associated with the people and the northerners who have had these innovative ideas, who have been able to beat the climate, the distance, and the costs of doing business up here. I say there is still plenty of opportunities up here for the risk-taker, but you have to take some risks, you have to be innovative, and one of the things you have to do, is you have to find ways of attracting them to leave that comfort of southern Canada and come up here and have a little fun. Thank you.

D. NUTTER: Thanks Rod. I think that just listening to Rod it's certainly not just Cominco that's been innovative, but a good number of companies, and it is that innovation which is responsible for the success the mining industry has had in the North.

Are there any questions that people might have, or any other comments or observations they would like to make about what Rod's just talked about. Yes.

Discussion:

QUESTION: What you are really saying then is that any mining activities in the far North, there is really no problem as far as transportation goes.

R. DOUGLAS: No I think there is a problem with transportation, but what I'm saying is if you use some innovative ideas there are ways of overcoming it. If we had tried to build Polaris on site the normal way you would do it down south it wouldn't have worked. But by building most of the plant in the South and towing it up there enabled us to overcome that distance and the cost of moving material up there. And that's what I'm saying, is that with these mining developments. I think when you have a mining development in the North you've got to look at it as something unique and say, "Well, is there a better way of doing it?", rather than just say, "Well, this is the way they do it down south and we should follow it".

G. PATENAUDE: I was under the impression that the company had been involved in recruiting through a third party involving a native corporation from the Eastern Arctic. I wonder whether you could talk about that for a moment and tell us what benefits there could have been on the native side and what some of the problems might have been.

R. DOUGLAS: That's going back in time a little bit but, as I recall, Gilles, we used the Inuit Development Corporation and entered into a recruiting contract with them to supply Inuit from the various communities during the construction period. They did that on a contractual arrangement but once we got into production then we took over our own personnel activities and did our own community visitations, and we found it was better with that personal relationship with the communities, rather than having someone who was located in Resolute. We wanted to get around and both worked actually. The Inuit Development Corporation contract worked reasonably well during construction, but we didn't think it was the thing to do during the production period.

R. SHANK: Yes Rod. You made one statement there about development being considered perhaps environmental degradation, that any time we develop we are doing something bad. I feel that these negatives that we often have, I guess it's something that we are almost brought up with now, that development is bad. But I, you know I've lived in the North quite a bit too, and I feel that there are times when development is good for the North.

We may not always recognize the road is necessarily good but there are times when it is, and certainly we have to have a saw-off between employment and wealth, I suppose, wealth being not just money in a person's pocket but as far as the growth of the country is concerned. And I feel that the price we have to pay for that is a certain amount of, well, if you call it degradation fine, but I don't really like thinking of it as that, that development can be good as well as thought of the other way.

R. DOUGLAS: Well you have a convert in me because I feel the same way. But I think there is a feeling that, and I think was expressed this morning, that mining companies' records in the past hasn't always been that great with respect to preserving the environment. I don't think you gain much by going over the past unless you learn for the future, but I would say that the developments I've been associated with and have known about; Nanisivik and Lupin and that, have tended to try and be concerned with doing as little damage to the environment as is necessary. But if you are going to develop you are going to change the environment around you, there's no question about that. You just can't develop without doing it, but I think you can keep it to reasonable levels. And that's all I was getting at.

R. SHANK: My point is that certainly you are going to change the environment. It may not always be changes for the worst.

R. DOUGLAS: I agree.

DEVELOPMENT OF THE THOR LAKE DEPOSIT

D. Trueman
Highwood Resources Ltd.

B. NUTTER: Thank you Rod. Next up we have Dave Trueman of Highwood Resources and Dave is a geologist who has a great deal of expertise in a particular field, that is a great deal of knowledge on high technology metals and Dave will probably go into a better description of those metals than I could. So I'll leave it at that, except to say that he has been involved for quite a number of years in mining operations and in exploration for rather unique minerals, not what I would consider to be the minerals of the 19th and 20th centuries, the base metals and precious metals, but rather minerals of the 21st century, those minerals are just being used today to enhance our level of communication, our ability to communicate through electronics and space age metals which are used both on Earth but also in space. They lend certain properties to alloys which enable us to carry out certain functions with metals which we have not been able to in the past.

Dave has been studying these metals and deposits for a good number of years and has offered quite a number of papers on this specialty and there is one particular property just east of town called Thor Lake which the company Dave's involved with, Highwood Resources, holds and are working towards developing into an operating mine. So without anything further, I will turn it over to Dave.

D. TRUEMAN: Thank you Mr. Chairman. This is an interesting story I'm about to tell, in that it touches on virtually all aspects of this morning's and this afternoon's discussions.

Highwood Resources started as a single person, Grant Thomas, who was an expatriate Welshman. He came to work in Canada at Sudbury and joined Giant here in Yellowknife. In the early seventies he started prospecting. He was a mining engineer by education, but he set out having some sort of a dream or a vision. In 1970-71 the mineralization at Thor Lake was discovered by a couple of prospectors. It was taken to one of the local mining companies. They examined it cursorily and declined an option on it. The property subsequently became open and was open for a number of years.

In 1976, the Geological Survey of Canada, EMR, released in an open file report the results of an airborne radiometric profile that was flown on a test basis from Thunder Bay to Yellowknife. The flight path took it right over Thor Lake. Gren Thomas picked up a copy of that open file report and went out staking, thinking he had a uranium occurrence. Uranium was quite topical at that time.

Having acquired all that ground, he then picked up what's called a shelf company. A shelf company is something that lawyers put together when they are unemployed. It keeps them busy I guess. But the advantage to a shelf company is that all the legal work is done. You can simply pull the company off the shelf, for example, put a mining company into it, and go about getting yourself listed. It's a time saving device and lawyers do make some money doing it. So Highwood Resources started as a shelf company and the Thor Lake deposits were put into Highwood Resources. I'll come back to Highwood with time.

The uranium deposit turned out to be a thorium deposit; that was the cause of the radiometric anomaly, but it did not take long to discover niobium in the deposit and quite marked enrichment in niobium. That led to diamond drilling in 1977, but also the discovery of yttrium and rare earths in some of the smaller zones. During 1977, what was called the T Zone was mapped and then in 1978, it was subject to diamond drilling and resulted in a blocked out tonnage, albeit of a low grade, of a niobium resource.

While that work was going on another zone was outlined, the so-called Lake Zone on the property and because of its potential size, attention was turned to it. It, however, had tantalum credits with the niobium. Tantalum at that time was topical and Placer Development farmed in to develop the Thor Lake deposits as a tantalum play. Placer worked on it from late 1979 until early 1983, when tantalum prices had cratered and Placer was facing a stiff front-end payment. They dropped their option when faced, in addition, with metalurgical problems in the deposit.

I came to work for Highwood at that time, bear in mind it's a junior mining company, and with Placer a highly respected major mining company dropping an option could have knocked Highwood's stock right out of bed. We had to pick up the pieces and resume exploration. My mandate was to find a high-grade or metalurgically amenable deposit. In 1976/77 the mineral phenacite had been identified in the deposit but nobody bothered to look up what phenacite was.

In 1983, we set about to conduct a pathfinder geochemical program; such a program looking at various of the dispersed elements related to the deposits. We wanted to find out which ones would lead us into a high-grade tantalum deposit. Since we were doing that work and since we identified what phenacite was, the geologic environment was very favourable to beryllium concentrations. We decided to assay for beryllium. But we haven't stopped running since that time.

By the fall of 1983, we'd started our diamond drilling programs, drilling some 127 holes to date or about 50,000 feet of drilling. We stopped drilling with a 33-year life outlined in the T Deposit and beryllium given a 50% market capture of the free world's beryllium markets. The deposits do remain open and we could expect a further life beyond that.

The initial job then was to delineate the deposit, determine its shape, its amenability to mining, how many ore zones were within it, and I use the word "ore" loosely because we don't know yet if it will turn a profit for us. I would like to point out that at that time people thought we were crazy for drilling through the winter in the Territories, but I can only counter with the fact that we drill in an identical climate in Kenora, Ontario for example, just off the 49th parallel. It doesn't seem to worry people from Toronto, but the remoteness of Yellowknife certainly does.

The diamond drilling outlined some five beryllium zones and allowed us to start metalurgical test work. Recognizing that there were five zones and that some of those zones would not be reached for a number of years, we had to give consideration to designing a concentrator so it would accommodate ore at surface and accommodate ore 500 feet down in later years. To that end, we had to go into the deposit and develop some 500 metres of underground decline to mine out approximately 10,000 tons of sample, taking those samples from beryllium zones but also from the non-beryllium yttrium and rare earth bearing zones.

We took that material and crushed it just about a year ago, and we trucked that down to Lakefield Research in Ontario. Lakefield Research pilot planted that material to produce a beryllium concentrate for us, as well as rare earth and yttrium concentrate. They did that work last summer and another big event in the development of the deposit occurred shortly thereafter. That was the joint venturing of the Thor Lake deposits with Hecla Mining Corporation of Canada, whereby Hecla Mining would put up the estimated $30 to $35 million U.S. capital costs to bring the property into production, given the positive feasibility study.

To that end, we integrated one stage further and decided that instead of producing the simple beryllium concentrate, we would take it to a more marketable commodity, beryllium hydroxide. That beryllium hydroxide research was done in Denver, Colorado and in Golden, Colorado at Hazen Research and is expected to be pilot planted in the coming month, the month of April.

In the meantime, we've completed market studies, we were running around the globe working on market development. We have spent to date some $10 million on the deposit or will have to the end of feasibility and we still, at this point in time, do not know if we have a mine.

Highwood Resources itself has grown considerably over the years. From one employee it now has four. We are carried in the Northwest Territories over the next four to five years on 'the part of joint venture partners in precious metal and rare metal exploration. We are exposed for almost $60 million of exploration. A good portion of that money will find its way, of course, through Yellowknife and we've been using services and stores of something to the tune of 45 different services in Yellowknife.

We have undertaken all of this work since 1983, using flow-through share financing. It has worked very well for us. We were one of the, I believe, first three companies in Canada to do a flow-through share placement. We started the learning curve. It looks as though there is every likelihood we will go into production. We have, however, sold our tax write-offs. I could try to answer any questions you might have. It strikes me that Highwood and Thor Lake are a fairly typical sort of venture on the part of a junior mining company and we still don't know if we've got a go-ahead.

D. NUTTER: Thanks Dave. Just a couple of thoughts come to my mind as we talk. I think most people here should be familiar with the location of Thor Lake but if they are not, I should have said this in the introduction. Thor Lake is a property that is about 70 miles southeast of Yellowknife, just north of the north shore of Great Slave Lake along the Hearne Channel. At this time the principal route of access is by air, though in the winter they have put in a winter road across Great Slave Lake to access the property and bring in as well as take out major materials. Rod Douglas, you've got a point here.

Discussion:

R. DOUGLAS: You said you're still not sure you have a mining operation. Is it markets that you still have to sort out Dave, or are there other things?

D. TRUEMAN: The markets certainly seem to be there. People would like to see us sign a contract, however, that may be the easier part of it. Rather, we don't have all the numbers in place. We need the operating costs and capital costs from the various stages. Then we can figure out a return on the investment.

QUESTION: This question doesn't relate to Thor Lake, but I am wondering a company such as yours how it would feel getting involved in properties owned by native groups, whether they be surface or sub-surface lease or ownership and the things that might come with them like either participation agreements or employment sort of agreements, and how your company would view, would they be very wary or not even approach those areas?

D. TRUEMAN: No, I would have to suggest we would certainly look at it. We would be crazy not to if it's a viable business venture. I don't see us having any problems to that end. One would want to perhaps start modelling backwards and look at return on investment and then work down to returns from say starting an exploration program.

QUESTION: I think when we talk about native participation in mining we also have to remember that the track record or what happens at the beginning of a mining development is very important, especially to a local community. Highwood Resources is located in the Snowdrift area and I would just like to ask what efforts Highwood has taken toward contacting Snowdrift?

D. TRUEMAN: We've largely left that to the government agencies. It's kind of an interesting situation. Indeed we've employed people from Snowdrift, 65 miles northwest of Yellowknife up at Russell Lake. The state of the project is such that until we get a clear go-ahead we are not allowed to commit to any other expenditures. So in terms of going around and meeting people, lining up programs and so on, there is nothing budgeted until we get a clear go-ahead from the feasibility study.

QUESTION: Have you had meetings with the community?

D. TRUEMAN: Not in Snowdrift, no.

COMMENT: I think there's an important point actually. I believe that when we're talking about native participation in mining, something that often happens is that development in a local area, in a community's area, is developed without consultation with people and I think in fact has happened in this case with Highwood. So that by the time, perhaps down the road, they may be open to participation in some sort of economic sense, whether the community is organized to do that, by that time the community already has a very negative attitude towards the development because of the past history and the development of it and not having contact right from the very beginning.

I think this is something that, as mining development takes place, I would think that if you are concerned about native involvement, there should be a lot more consultation during the development stages of mines so that you don't develop these negative local attitudes before you can even talk about native participation.

D. NUTTER: One comment I will add to that before we go on to the next question, if I might add a comment. It was two years ago now, but two years ago Highwood sponsored several public meetings here in Yellowknife in which there was a very broad invitation, but from people from within Yellowknife as well as native communities in the vicinity; both Detah, and I believe Rae, and certainly Snowdrift representatives were invited to come to these public presentations, and there was quite a large representation of native communities and groups that did come to these meetings. That was two years ago and I can't state since that time. As Dave indicates, perhaps there has not been a great deal of contact, but there certainly was several years ago.

H. DRECHSLER: One problem that might come up for junior companies and native lands is that if a deposit is found and if the deposit can be mined at a cost less than price and in the financing of that property, if any of the bank financing is considered, the possibility exists that the bank could not put a lien on the property because it's on native land. As a consequence of that, the bank won't put up any money.

Now for the larger companies, like Cominco, can put up their personal guarantees or, in effect, their corporate guarantees, then that solves that problem. But for little companies trying to raise money from banks on native lands, it's almost impossible.

QUESTION: What do they consider native lands though? Is that in a land claims area?

G. PATENAUDE: I believe the last comment referred to development on reserves.

H. DRECHSLER: That's correct.

G. PATENAUDE: I think there's only one or two reserves in the whole of the Northwest Territories at the moment, so most of the lands we do have I think are under a bit of a different context than this.

One of the questions that I wanted to ask of Dave Trueman was, I wonder whether you could say a few words about the area north of Rae-Edzo that seems to be pretty promising these days and I'm sure will be of interest to many people?

D. TRUEMAN: That area is still active on our part, whereas Highwood is the property owner, Highwood's affiliate or sub, Aber Resources, has been earning its way into those properties. I say two properties; one was the discovery made in August of last year, and the second was acquired by staking during the ensuing staking rush. This property we call the SP. On March 5th, we signed a joint venture agreement with Freeport McMoran Gold who are committed to spend $7.4 million in there over the next four years to earn a 51% interest. The ongoing work now will be conducted by them as the operators.

In the meantime, we are still drilling on the SP property. We've poked a number of holes into two zones. At the moment we are ranging out with the diamond drill testing some other 12 conductors, not wanting to lock into pattern drilling on what might turn out to be the worst of the bunch.

G. PATENAUDE: I understand that the property we are talking about is fairly close to Rae-Edzo. Might there be some opportunities there for certain supply of services and that from the local area?

D. TRUEMAN: Yes, Rae-Edzo would certainly be the logical jumping off and supply point. The property can be accessed by barge in the summer, it can be accessed by winter road during the winter. The jump-off for that, of course, is Rae-Edzo.

D. SANDERCOCK: Yes, I'm Don Sandercock. Dave, you're talking about being an expert in high-tech metals. Now you mentioned about six elements, I guess, that some of them I've heard and some of them I haven't. I was just wondering if you would just basically tell us what each one of these metals or minerals are used for just so we have a sort of a general knowledge of that.

D. TRUEMAN: I don't know if the Chairman will give me three hours. He said I'm an expert too. Beryllium is an interesting metal. It has the same weight as magnesium or essentially the same, about two-thirds of that of aluminum. But when alloyed with other metals, it imparts the high heat capacity of beryllium, the high stiffness and resiliency or spring to the metal which avoids fatique and failure. For example, the springs in your car have some beryllium in them. That beryllium gives your car spring, it takes it from a 70,000 cycle life to an infinite life.

About 60% of beryllium consumed is consumed in the form of beryllium-copper alloys. Of that the preponderance goes into the electronics industry where it's used in electromechanical devices, electronic connectors, heat sinks for transistors and substrates for solid-state circuits and so on. About 20% of it goes into the aerospace business in terms of satellite chassis, again, because of its lightness. About 20% of it goes into odd-ball uses such as beryllium-nickel alloys for aircraft brakes and aircraft struts.

The other metals, the yttrium and the rare earth which I mentioned, are used to refine gasoline, they are used as anti-knock additives in gasolines, they are used as phosphors in fluorescent lights, they are used as phosphors in your television screen.

Niobium goes into high-strength, low-alloy steels, such things as nodular iron that has lifted the front suspension weight out of your car, your axle weight. It's allowed the lightening and hence attendant fuel savings in cars. It goes into pipeline steels, into drill steels for those very same reasons.

That's just touching briefly on these elements. You are surrounded by these elements, even your glass frames, the hinges.

B. SANDERCOCK: They are kind of interesting minerals. Thank you.

D. NUTTER: Just to put this in a more concrete context, I wonder if you could outline some areas that you can visualize native participation in the Thor Lake Mine, in particular, say for Snowdrift participation and also, the Russell Lake development for Rae participation. Can you see actual examples of where there is possibility for involvement?

D. TRUEMAN: Yes I can. In the mining industry, at the upper levels, you need people with mining engineering. From there on down, you can apprentice and bring up people, for example, to work on mill floors and certainly more routine, the operating jobs, if you will. You can bring them up in analytical laboratories, at least to the point of helping your chief assayor or chemist. You can, as I see it, integrate from the miner leaning on the jack leg right up through where somebody requires a rubber stamp for professional purposes.

A point of interest, I was talking at lunch with some colleagues. We were trucking into Russell Lake in November and December, but as we got a backhaul rate out of LaRonge, we brought in a load of fuel. As a result, it was the first airplane that had landed there. That brought everybody out of the SP camp and it was just like an old fashioned scene. But I did a head count and 75% of the people on the ice watching that plane were of native extraction.

QUESTION: So you see it mainly in the form of employment in your operations. What about in terms of actual participation in supplying of services, as I think Gilles had touched on that particularly at Rae. If Rae is your jumping-off point for Russell Lake, would it be just a pass-through, more or less trucks or whatever be passing through, or could you actually be purchasing supplies from the community? Would there be a community benefit?

D. TRUEMAN: You know, it's difficult for me to quantify. There would certainly be a community benefit. I would think that would arise in terms of employment, in terms of people passing through. On the other hand, I don't think Rae is going to supply us with lime or zinc dust or bulk material handling.

QUESTION: What about in the areas of some of your staff, like food, accommodation, services, that sort of thing?

D. TRUEMAN: I would think that could be wide open.

D. NUTTER: If I could also add another point there. At least one of the speakers tomorrow, Leon Harder, the purchasing agent for Con, and some of the points he is going to make with respect to supply opportunities, the purchasing that the northern mines are engaged in, and what opportunities he sees for northern business to supply both goods and services. And I think that would apply to the Con Mine would apply equally to other properties in the area and Leon, in deference to Dave, has a great deal more experience in the purchasing end of things as far as an operating mine is concerned and I think could probably add a good deal more to what you've just asked.

Another point I was going to pick up on Dave, in your presentation you made the comment about drilling at Thor Lake in the winter and that you'd encountered some skepticism from southerners about drilling in the North in winter and you found it was really no different than drilling in Northern Ontario which they already readily accepted. Have you found other examples of this kind of reservation or reluctance from outside investors that has proven to be not a justifiable reservation? Could you tell us whether you find that there is much difference in operating in the North here as opposed to operating in more southern parts of the country which most investors are more accustomed to and more readily accept?

D. TRUEMAN: You mentioned this morning Dave there is something like $1 billion expected to be raised in the flow-through basis in '87. In '86, the more recent estimates are $570 million for the year ending, the '86 tax year. Eighty per cent of that money was spent in Ontario and Quebec. The remaining 20% was spent in Manitoba, Sask., B.C., Northwest Territories and the Yukon Territory.

Approximately 50%... let me come at it from another tack. Eighty per cent of Canada's gold production comes out of Precambrian mineral deposits, deposits in the Canadian Shield. Approximately half of the favourable greenstone belt geology for finding gold occurs in the Northwest Territories, but it is receiving something less than 20% of the exploration dollars.

D. NUTTER: I guess the point I'm trying to make is, what would the reason for that be and, if it's because people feel that for whatever reason they are reluctant to invest in the North, they find the challenges are too great, it would seem to me from the work that Highwood and Aber have done that you don't feel that there are unsurmountable obstacles to carry out exploration in developing properties in this North. Is that a true reflection?

D. TRUEMAN: Yes, that's correct. I see no problems. Twenty-five years ago when I was going to school, Yellowknife was the end of the world. After working out of Yellowknife now, I see that it's just the start of the world. But you have this image in our financial centres in Canada that this is a remote area. People down south don't realize that there are trees up here, the lakes melt in the summertime, things turn green and it may be a myth that Canadians have generated themselves, painting our climate as a bleak and a foreboding one. I think we have to change that image or perhaps we could do that by changing our taxation. In some way, flag something onto a flow-through share, an extra premium, that would take money out of Ontario and direct it into the Territories. You've got to get them working up here before they will understand or know it.

D. NUTTER: Thank you. If there are no further questions, we will take a coffee break and we are keeping right on schedule, so we'll start up again in about 25 minutes, at 3:30.

D. NUTTER: There are a few bits of information I wanted to pass on.

Wayne Wagner from the Territorial Government has made copies of another publication which some people might be interested in. There was a similar, perhaps quite a bit more elaborate, but similar conference to this held in Kingston, Ontario, several years ago, entitled "Native Participation in Canadian Mineral Activities". Following the sessions in Kingston, a publication was put out called "Source Book for Native Participation in Canadian Mineral Activities".

Essentially, this, to quote here, is designed to present detailed or technical information to provide background data for understanding specific aspects of the Canadian Mineral Industry. It may well be of interest to people here who are low down on the learning curve and trying to learn a good deal more about the mining industry. There are, I believe, 15 copies at the back, so I would encourage people from the mining industry itself who should know a fair bit about the mining industry already not pick up one of these copies, but if you do want to see it, get hold of Wayne or myself, and we can get you a copy. But other delegates to our meeting here are more than welcome to pick up a copy at the back of the room.

Secondly, the Department of Regional and Industrial Expansion (DRIE) has copies of another manual that was put together for a seminar held in Vancouver last year. Last year the B.C. and Yukon Chamber of Mines held seminars or classes for the brokerage community. Basically it was a course designed to describe mining and exploration to the people who were not directly involved in the mining industry or have expertise in mining, but who were interested in investing in the mining industry.

Many members of the brokerage community in Vancouver attended these sessions, and a manual was put together. It incorporates the speeches and talks presented by a number of experts on the mining industry to these brokers, and as I say, copies of this manual are available at the DRIE office here in Yellowknife.

If a person wanted to get in touch with them, you could pick up a copy of this manual.

DEVELOPMENT OF THE TOM AND PTARMIGAN PROPERTIES

R. T. Trenaman
Treminco Resources Ltd.

D. NUTTER: Our next speaker this afternoon, continuing on with the theme of actual properties under development or currently operating in the N.W.T. and some of their experiences, our next speaker is Rolly Trenaman, who is President of Treminco Resources. Treminco, among their assets, have a gold property which has been producing for a year, or year and a half I guess, which is just northeast of Yellowknife on the Ingraham Trail, called the Tom Property, and Rolly is going to talk a bit about that, and talk about his experiences as a junior mining company in obtaining financing and bringing a property into production in the Northwest Territories. Rolly.

R. TRENAMAN: Thanks Dave. First of all, I would like to thank everybody. I appreciate being here today, and speaking to this group of people, both those who are in the industry, and those who have an interest in getting into it.

By way of background, we are a junior mining company. We have a somewhat different set of objectives and time schedules than a number of the normal group of the junior mining company that resides on the Vancouver Board.

Because of the particular skills of our Board, which represents some 200 years of operating experience, and furthermore because the particular skills are oriented to production rather than exploration, our objectives have been to acquire properties that have potential of being placed in production in a fairly short time span.

Then the exercise becomes to try to find such properties, to find the capital to put them into operation, and hopefully with those properties in production, to expand and become another Cominco, before the last few years that is. It goes probably without saying that Treminco has a simimlar ring with Cominco.

One or two things in regard to approaching things from that sort of a scenario is that we are then focusing on ways to tackle properties that other people have overlooked, and obviously for the most part that is going to mean we are looking at properties that the big corporations have felt are too small, that they have reached a fairly advanced stage of development prior to the time we got involved, and that some, by some way, and I think Rod alluded to the need for innovation, by applying some particular techniques to converting those into economic...or mining them, or converting what is not ore, converting it into ore.

This means that we should be looking at ways of keeping our operating costs down, i.e. take advantage of existing infrastructure. Thus, it is not by accident that the properties that I have been involved with over the last seven or eight years, three of them at Cassiar, and the ones we are working on here, now, were chosen because they can take advantage of infrastructure.

I have done a number of feasibility studies for different companies and different groups. It becomes quite obvious as soon as you move away from this infrastructure, particularly in places like north of Yellowknife, you are going to look at up to 50% higher capital costs than you would be if you can take advantage of existing infrastructure.

Now, that translates, in terms of the bottom line, that a property that may be economic here at .3 ounce ton becomes a property that needs .4 or .5 ounce per ton if you go 100 miles north of here.

There are ways you can do something about it, but that's a pretty good rule of thumb that you are going to have to look at.

So it now becomes a way of acquiring the property, and then getting it into production.

By way of another couple of comments, I am going to take a swing at some of the earlier speakers, and I know that's unfair, but in the discussion period, if there's time for such later, they can get back at me.

The first guy I am going to pick on is Bill Padgham. Our relationship goes back I hate to say how long, but at least 35 years, so I think we know each other pretty well.

Bill showed a slide presentation in Vancouver, or John Brophy did, two years ago, illustrating that 1% of the gold production from the Northwest Territories came out of the sedimentary hosted deposits, and that the other 99% came out of greenstone belts. Well, that's what statistics demonstrate for you.

I don't think that necessarily if we were to take a look at that picture 10 years from now that it needs to be that way.

The Giant Mine may be finished, there is a good chance that it has a limited life. The Con Mine, I don't know. It has great potential yet, and may keep going. In the meantime, some of these other deposits which have been sitting out here, and Bill has said there is 200 that we know of, and I guess there is maybe more if we keep looking, if we can find a way to convert those into economic ore deposits, then that whole percentage should change.

So, while the statistics show that way at the present, I don't think that we need to say we discount the search for gold deposits in these areas.

With regard to finding money, and that is one of the things I have spent the last three years trying to do for the Ptarmigan and I'm taking a swing at Dave Trueman now, who said these people in London now have all this money and are just itching to buy your shares, well Dave I have to get together with you because somehow I haven't met these guys yet.

There is one other thing that concerns me a little bit here, in the fact that we have this meeting structured in kind of the "we's" and the "they's". There's the mine operators who are in the position of producing, or the process of going into production, and then there's the aboriginals who are trying to find a way that they can get involved in it.

To me, that's the wrong way to approach this, because I have operated mines in Pinchey Lake, which was a very high percentage of aboriginal people there, Fort MacNeil with a good many in the nearby communities, Cassiar where there's a lot of the Teltans and other Indians there. And to some extent in Kimberley.

I think our philosophy always was that if there was a job opening, the job went to a Canadian who could qualify, and I don't care whether that was the Engineer's job, or whether it was a miner's job, or whether it was the Vice-president's job, and I think that's really the answer. The bottom line answer is, if there is a problem here, I think the problem is that we need to identify for the aboriginal people where the opportunities are, and what specific skills or training is needed so that they can get involved.

From my own point of view, that's the way I have always looked at that, and I think we should be looking at it from that point of view.

Now one final comment, and that is that, while I am an engineer, and this is one of the things that you learn when you are running a small company, by legal definition you are a promoter, and whether that's good or bad. The slide presentation I am going to give you now is one we have prepared for the selling of Treminco to the brokerage community. I think it does a fairly good job of illustrating what we have tried, and what we intend to do here in the Yellowknife area with the Tom and Ptarmigan properties, so with that I'll see.

OK. Treminco Resources. We have a small producing gold mine with substantial ore reserves, predicated certainly in part in the acquisition of the Ptarmigan. Strong management capability to ensure dynamic growth.

What this slide presentation will show is a corporate profile, our achievements to date. We went public a year ago last February. Our objectives for the future, and a financial summary. The requirements I have left out.

Our objective is to be a profitable mining company, based on existing gold properties in and around the Yellowknife area. For all you people here, this map is unnecessary. There's Yellowknife in the middle.

This is a shot of the WT property which we have under option from Bill Knutson, and one of the stopes at our Tom mine.

The Tom property, there, as you can see, is situated about seven miles by air northeast of Yellowknife. The Ptarmigan property, and we will go in to that a little later, is about a mile south of the Tom.

The Tom we own outright, and we have an option to purchase the Ptarmigan. We have purchased the Gab property up west of Gordon Lake, and we have an option with a production agreement on the WT property.

Our plans incorporate developing and exploring the Tom property, developing the Ptarmigan and, in the near future, building a mill in or around Yellowknife to process this ore, and the ores from the Gab and the WT and other properties which we hope to be able to develop in the near future, within that sedimentary group of rocks.

Referring again to, and Bill in the geology group may take exception to this, the rocks that we are looking at, the gold deposits we are looking at, are quartz vein hosted gold deposits, which are basically free milling, which exist within the sedimentary group of Archean rocks north and east of Yellowknife.

The main gold deposits, as was indicated earlier, the Giant and Con, occur in the greenstones or volcanics there at Yellowknife. That belt runs north.

This is a shot of one of the stopes, preparing to blast at the Tom property. The type of ore obviously is not typical, but it shows that the ore is basically free milling. The gold can be quite spectacularly placed. There is very little sulphides with the ore, perhaps less than 2%.

An aerial view of the WT property which is under option, it is approximately 25 miles north off the end of the Ingraham Trail. Our plans call for the future development of these properties, and others that we may be able to acquire, or enter into agreements with various groups as we go along.

In the area of the Tom property, just east of Yellowknife, we own the property outright. The Trem claims, surround the Ptarmigan and that's the property which we have under option at this time.

The Ingraham Trail passes through the property and heads on out beyond Prosperous Lake. The 33,000 volt power line which comes down from Bluefish Lake is also on the property.

This is a three dimensional view of the Ptarmigan as it was left when Cominco stopped operating it in 1942. The Ptarmigan mine property was staked, I believe, by Jack Stephens and one or two other prospectors, and about 1936 Cominco acquired an option, and eventually purchased the property. They developed it at the beginning of the war with a mill on site. That was a gravity cyanide mill. They developed six levels to the 900' level, commenced mining the broken ore from stopes,, milled 32,000 tons at a grade of .35 and then shut the mine down at that time due to the need to move people into more strategic metal type deposits.

Following the war, because of the fact that there was no road to the property, it was decided not to re-open it, and the mill and headframe were subsequently removed to other properties. It sat that way since.

In 1980, Cominco did further drilling and confirmed that ore reserve exists right next to surface. In fact, they expanded it a bit with the drilling. The highway goes right ober this ore block.

If we go into the property, our objective would be to drive a 1000' decline to access that first level, and then evaluate the condition of the shaft, decide whether we would put a hoist back on it or decline to the bottom.

This is another view of the ore reserves, the dark measured ore, the pink broken ore, and the green indicated ore.

Official reserves at the property are 153,000 tons at 53,000 ounces broken, measured and indicataed.

In addition to the Ptarmigan vein and the Tom vein which is about a mile to the north, there are a number of other veins in between and to the south and north of these structures, which have gold values at surface, but which really haven't been tested.

So in addition, we wish to build our own mill, that would process the ore from this operation and from other operations as I said earlier. There are substantial economic benefits in doing so.

Just taking a look at the present toll costs we are operating under, such a mill could be paid back in eight months.

This is the sort of mill we would build. It is similar in structure to one of the mills I put in up at Cassiar in the last few years.

We have the general management experience which I indicated, to be able to handle this. I have put three of these projects together up in Cassiar, and with the experience on the Board, technically we feel we have no problem with that.

So, as I mentioned, we have the technical expertise, I have mentioned the properties which we have put into production at Cassiar. Two of them are still operating, one was moved to Skookum and is operating there for Erikson Gold Mines now.

OK, achievements during the first year - we have developed positive cash flow from operations. We have acquired substantial gold properties, and maintained minimum dilution of shareholders equity. Most of that has been by flow-through. We have established a substantial asset base in mining equipment, and achieved approximately 3000 tons per month production for custom milling at Giant. We have expanded the exploration on the Tom property.

So our objectives for this year are to raise the capital to purchase and develop the Ptarmigan, and to build a mill.

The Ptarmigan purchase will generate approximately $16 million in cash flow over the first five years.

I mentioned the benefits of the mill. It will reduce the cost per ounce, and pay back construction within eight months.

This is the schedule out of our annual report for the Tom. We are planning to go into production on a continuing basis about this time. The Ptarmigan, we are hoping to be able to develop it and start production in October. The WT would be an intermittent type of production predicated on the results we get from our exploration, and the flow of ore from those properties would be predicated on how we do with winter road hauls.

We just completed a $125,000 drilling program on the Gab, with fairly positive results. We were able to expend the known reserves there to depth and it is still open.

Our mill, again predicated on our production, well, not production, but the availability of cash, is predicated to move ahead this year, and go into production this fall.

The financial projections which we saw from that particular plan, it represented $ 700,000 this year, and moving from $5 to $8 million a year at a price of $400 gold.

Our capital requirements, the 5.2 which shows at the bottom is what we need to purchase the Ptarmigan and to build a mill. The capital requirements for subsequent years was for development of the Gab and WT.

One final shot is a sample of the gold we have at the Tom property.

I was going to spend a few moments to give you a model of the Tom and Ptarmigan ore bodies for those people that are interested.

I mentioned that the gold deposits we are focusing on are hosted within the sedimentary rocks to the east and north of Yellowknife, although that doesn't mean we wouldn't be looking at other deposits if they became available to us.

I have referred to the fact that there were a number of parallel quartz veins that we are working. The Tom we are working on the north end, the Ptarmigan shows there to the south, and in between there, over a distance of about a mile, there are a number of others, and we know of others north of the Tom and south of the Ptarmigan which haven't been explored.

So we are looking at the capability of maintaining a 200 ton a day operation from that area alone.

This is a perspective view of the Ptarmigan/Tom series of quartz veins. The Ptarmigan mine, and the Ingraham Trail and the power line. The major Ptarmigan fault which is thought to offset everything on the east side about 1100' to the north, thus, if you take a look at the area of the Tom shaft, you will notice a vein on the other side of the fault. That's about 1100'. Very little drilling has been done, no drilling below 300', and very little on the veins in between.

This is another view of the top of the Ptarmigan which we dealt with earlier. Taking a look at the way we think these gold deposits are hosted, you have lots of quartz, but very little gold, and the gold occurs as discrete pods within the quartz structure. There may be some lithological reasons why certain horizons encourage the focus or location of them, but if we take a look at what we know about the Tom, and the amount of drilling and exploration that has been done, what that represents is a view of a quartz vein to a depth of 2000'.

So if we take a look at the percentage of that vein structure that has been explored, it represents 10%. Similarly, on the Ptarmigan, pink represents the area that is defined now. The orange represents the area, if you like, that has been defined by drifts and drill holes. 17% of the Ptarmigan vein potential has been explored. So we feel there is substantial potential in these two veins, and then there are the other veins to expand our reserves in that area.

Taking a three-dimensional look, and I guess here we are looking at the global reserve concept, looking at a random surface that has been eroded by glaciation, and we are saying, we know that the Ptarmigan structure, with what was mined to date, and what is still left, represented about 200,000 tons. We can say that if we take a position that half of that was eroded, then we are looking at a pod within that quartz structure that could represent 400,000 tons at about .35 ounce per ton.

Similarly, on the Tom, we know that the structure we are working on is about 35,000 tons, and assuming again 50%, that would have been about a 70,000 ton pod. Now there are a number of other veins. If you take some sort of random assumption on the location of those pods, you could see 1 million to 1.5 million tons in the .3 ounce per ton range.

OK, Dave, that generally completes the comments I have. I expect some of these people will get a crack to get back at me after my earlier comments.

D. NUTTER: Thanks, Rolly. I think that here is another example of the same sort of innovative thinking that Rod Douglas was talking about earlier, from quite a different perspective. Rather than what are now major corporations being innovative, we have a junior which is trying to become a major, or sustain itself, through innovative thinking.

Do we have any questions from people here? Yes.

Discussion

QUESTION: I am wondering what level of native participation you do have in your operation.

R. TRENAMAN: At the present time we have a total of 10 people out there, and I would have to say that 1 of them is part native.

QUESTION: What do you feel needs to be done to increase the participation?

R. TRENAMAN: Well, that's a good point, because I feel there are ... some years ago, the mining industry, through a number of agencies, the Northwest Chamber of Mines in Edmonton, and the Department of Labour themselves, maintained specialized people who helped the industry find employees.

Over the last few years, for some reaons, probably because mining has been in the doldrums, those specialized agencies have been dropped, and I attempt to find employees, be they miners, surveyors, whatever, these days, and when you talk to them, they look at you blankly. They don't have anybody who can do that for you now.

We are all Canadians first. I think when we are looking to employ a person, we are looking for somebody that can do the job. I believe the area that would provide for larger participation by native people, as far as training, would be an area that would make them familiar with the mining industry and the requirements of the mining industry, be that done by a mining school set up in the area, by a college training program, or even in the high schools. A better, greater awareness is needed of what mining represents, and what can be done.

QUESTION: So training is basically it? They don't have the training.

R. TRENAMAN: Yes. You have to appreciate our problem. As a small junior, you don't have the resources in terms of the training functions, so you try to hire the people you need for a given job.

Later on, as you have more resources, you would probably add those services, but in the initial phase, you have to go to the labour market and try to find those people.

I'm sure there are ways that the sort of specialized training which is needed could be given in the local areas quite effectively.

COMMENT: I am not singling out... I know you are a small company, but if we are talking about native participation in mining these couple of days, it seems that there is a low level of participation, and how do we increase that, so I just...

R. TRENAMAN: Yes, I would have to defer to the likes of Nerco and Giant or Nanisivik to know what that participation is. It may not be as low as we think it is. There's no question about it, there has to be a desire on the part of the industry to encourage that. I would have to say that. And I believe that is there.

The mining industry, as I read it right now, is definitely short of a number of skilled people, and in that category I would put....in trying to find miners, which is a pretty good paying job, I have a very difficult time finding miners.

D. NUTTER: Perhaps if I could turn your question over to a couple of other people here who run operating mines and have some experience in hiring northerners. That would be Jim Marshall from Nanisivik, and Dennis Bergen from Polaris.

What are their experiences in staffing with northerners? Jim.

J. MARSHALL: I think in Nanisivik's situation, we have run between 25 and 30% of the workforce are, in our terminology, northern residents, which really by definition is Inuit.

We have been there with considerable effort to keep it there. The recruiting, every position at Nanisivik goes to Canada Manpower for seven days. If they can't fill the position in the Territories in seven days, then we do the recruiting in southern Canada. So it is strictly a question of skills. If the skills are available in the north, that's where we hire the people. If they are not, then we go south.

The turnover varies. We have Inuit people who have been at Nanisivik; we've been there 10 years, and they've been there 10 years, so it varies greatly, but the turnover is enough that we have only graduated about 4 tradesmen through the apprenticeship program. It is often very difficult to keep people through the 4 years of training.

So that has been our experience. As I say, it takes quite a bit of effort to keep it up at at least a quarter of the work force, and it has varied. There are a lot more people available, a lot more people coming out of secondary school, their comprehension of English is much better, which makes it obviously easier to work and safer.

But they are younger, and like young people in all parts of Canada, they don't represent very much stability in the work force.

So although there is a lot more potential in the people now coming out of school, the turnover has remained the same as it was when a number of older people tried out mining and decided there were other jobs they would rather do, and went back to them.

So that has tended to be our experience, that there is a level, and very few people pierce that level where they would displace southerners on the workforce.

Probably out of the 50 we may have half a dozen people who are skilled, or tradesmen, who have replaced what would normally be southerners.

D. NUTTER: Dennis?

D. BERGEN: It is an interesting one. We have been looking at this again recently. Just to give you some idea of where we are. Over the four years that we have been in operation, looking at people that have come and gone, about 25% of our people have come out of the Northwest Territories, and that is split.

16% of those were Inuit and Indian background, and the other percent are those people we have hired out of Yellowknife not of aboriginal descent, but we have hired out of the north.

We have some people who have made it in the trades positions. We have several that have made acting supervisors. And we certainly encourage going after people.

In terms of hiring policies, unless we are desperate for somebody, and have to go somewhere, we leave it for 72 hours in the Northwest Territories, and the preference there is on skilled people within the North. And if we can't settle it there, we look beyond that.

We seem to have a reputation that keeps our files relatively full of names, whether or not they are always the people you want is something we find out later.

One of the things that I have noticed is that we obviously live in a camp environment, and a lot of people find that difficult to live with.

We accommodate the northern natives with a different schedule than what we use on our southern employees, but even with that, some of the people out of the communities simply do not want to be away from home.

While we do what we can to accommodate it, they often settle it themselves by saying "I'm going home" and fortunately we do get calls back from those people, sometimes six months later, sometimes a year later, saying they are interested in coming back, and we certainly don't mind that.

We have a number of people, not a large core, but in a lot of cases it is trying to find the people. We do have training programs to train them, but it's not always the people who are interested.

COMMENT: I guess if I could just make one comment. Several speakers have talked about mining in the North and the necessity for innovation, and this gentleman said they have tried alternating schedules or something, but maybe this is a spot where innovation is really necessary in the employment and the training.

And I'm not pinning it all on industry, but maybe this is a spot where industry and government and the native organizations can combine, but it seems that it is a fairly low level now, and perhaps with some sort of innovation in training and employment schedules we could raise this level.

D. NUTTER: Yes. Jim.

J. MARSHALL: I would like to think that in the last two years at Nanisivik we have tried that, because we have found that a lot of the northern residents coming were not really sure what they wanted to do. They were going to work in a mine, and really had no idea whether they wanted to be an electrician, a miner, work kitchen, or what.

So with the Territorial Government, over the last two years, a program similar to what the oil companies ran, we have been running it at Nanisivik. It is a pre-employment program where younger people, preferably 18-20, come and are taught more living skills than technical skills, and then they work one day a week for the mine, each week in a different department. Then hopefully at the end of the 10-week course, they have worked in all the departments, they know what is expected, whether it is a dirty job, a clean job, heavy lifting, or whatever it is, so that at the end of that time, hopefully, they have a much better understanding.

Because sometimes the mine scares people off, where probably in most mines a quarter or less of the people actually work underground. There are a lot of other jobs involved, and people should be aware of that.

But they get a truer picture of it, and in many cases, it's more an orientation session. I think the facilities are there. Usually the Territorial Government has the facilities, even if you just use the local high school, or something of that nature, and the mine can usually accommodate taking somebody at least one day a week.

It hasn't as yet shown fantastic results at Nanisivik, but these things do take a few years.

So we were hoping that was the answer, because we had too many people coming to Nanisivik, and leaving after six weeks or so on, just because they didn't like the particular job they were doing, but didn't know the difference. So that's why we implemented this program.

G. NORBER: This whole area of employment and training within the mining industry is something that the Department of Education, with Arctic College and with the mining industry and with the organizations, will be looking at again over this next year in a more concerted way, in conjunction with Economic Development and Tourism, in dealing with setting up, I don't know if you want to call it a mining school, but some sort of orientation into the mining industry through the Arctic College system.

There are a number of other routes that are available at this time for enticement, I suppose, that the Government has in place. I am talking about subsidy programs through ourselves, or through CEIC in terms of job orientation, in encouraging the industry, not only the mining industry, but the rest of the private sector to take on aboriginal people, or northern people. Those type of things I think we'll be covering tomorrow.

The Director of our division will be speaking on my behalf, he has been involved in this a little bit longer than I have.

Those sort of things will be discussed tomorrow, and like I said earlier, I hope that we will get some positive feedback. The mining industry represents quite a large chunk of dollars within the N.W.T., and a large part of the labour force, but we also have to remember that the mining industry alone is after the same group of people that the government is after, that Transport Canada is after, that the Federal Government is after, the educated group, and we have a tremendous amount, a large percentage, the latest figure that I have read is 42% of the N.W.T. population are under the age of 20, and I believe the average grade is between 7 and 9.

It is an area that we as a department are trying to address, is to how we can get that group up to what we term employable level in terms of education. At the same time, the labour force is growing at the rate of about 600 additional able bodied people per year in the N.W.T. that you have to address. Those are either leaving the school system at 17 or older, or graduating out of the high school system. But the numbers graduating out of the high school system, and the type of people you are looking for just aren't there.

We have a large group that is undereducated, and we don't have ready answers. It is a tremendous problem in terms of the N.W.T. to try to get that level of 20 and under, with a Grade 7 to 9, up to a level where we can start basic training.

Because when you are talking about apprenticeship in any trade, you are looking at a minimum of Grade 10 before we will accept somebody into apprenticeship. We will accept them with less so long as we can get them upgraded.

We are not trying to fool anybody. You need those requirements.

COMMENT: If I could make a comment here, this goes back to the workforce as it existed in most of the underground mines I have worked in and been involved with over the last 20 or 30 years, I would suggest that the average grade level of the underground workforce would probably be, on average, less than Grade 10.

I think the records will show, some of the most financially successful people are people who for whatever reason dropped out of school before Grade 12. They had a certain particular reason they wanted to, or they got fed up with the regimentation. That doesn't mean they are a failure because they don't have Grade 12, and I ...

G. NORBER: I'm not suggesting that at all. The point I am trying to make is that the mining industry alone isn't the only group going after all the able bodied people, and it becomes a misconception. I think any time that a group such as this sits down, same as the oil industry or the government, as an employer, you look at yourselves as the only employers, and you are not.

And when we get into a numbers game, that becomes obvious in an awful hurry. There is a limited resource out there, and it also becomes a problem of getting the information out. You as an industry, what do you have to offer, and I think from our part, we have to work together to get that information out to the schools, to the general public, through career shows, whatever you want to call them.

And the type of training that you want people to have when they come onto your operation, those kinds of things have to be made known right from your least skilled to your most skilled.

Like I say, it is an area that we will be looking at with Economic Development & Tourism, promoting the mining industry along with Arctic College and the development of a "school of mines" sometime within the next year, we hope.

Hopefully, from the employment and training side, we can start addressing those things.

D. NUTTER: Ok, thank you very much. I am sure that this discussion of training and education is going to continue on into tomorrow, because we have several speakers tomorrow who also represent the industry on the employment side. So if we have no further questions of Rolly, we can move along. Thank you very much Rolly.

THE COLOMAC PROJECT

M. K. Witte and R. Burns
Neptune Resources Corporation

D. NUTTER: Our next speaker is Peggy Witte from Neptune Resources. On the ongoing theme of innovation, we will hear from Peggy talking about a particular property which Neptune is examining north of Yellowknife. If they are successful, this will definitely be an innovation on the mining scene, and will open up, hopefully, a lot of other opportunities across the North.

Looks like Peggy is going to be joined up front by Ross Burns who is also with Neptune.

P. WITTE: Thank you Dave. I am new to the North. I was born and raised in Nevada, and came to Canada in 1979. So I am not a Canadian that is exploring the North, I am, I guess, an American exploring the North, so I came pretty far to develop a project.

There was a lot of talk this morning about how does one get into this business. Everybody has their specific example. I would like to relate to some of you what our example is, who Neptune is, where they came from so suddenly, and what we are doing.

Essentially, for the last six years, I was President of a contract research and development company called Witteck Development. Over these six years we worked on probably 300 mineral deposits in Canada, of which probably 200 of those were gold deposits.

During the course of this time, we could see the potential from using innovative technology in a lot of deposits, but because of conservativism, and also because of financial restraints, various companies were not looking to the future as far as developing these deposits.

In the spring of last year, we came across a deposit here in the Northwest Territories called the Johnsby mine. The first thing that we looked at was why this property had not been developed previously, because there had been approximately, in 1987 dollars, somewhere between $5 and $7 million already spent on the property.

Over the course of a few months, we did metallurgical testing and laboratory work, and pre-feasibility study work, and we realized that using some techniques that are currently used elsewhere in the world, that this property could be developed.

At that point, we optioned the property from Discovery, and from Hydra Resources, and we then had to find a vehicle to raise money. This is where some innovation takes place from the standpoint of the financial community, because we went downtown in Toronto to all the major brokerage firms and decided we were going to start our own company, and we were going to become a reporting issuer, and then in a year we would become listed.

But we realized very quickly that the comment that was made earlier about the lawyers making all the money was very true. At the end of this whole game what would we have left, or what was going to go into the ground as far as development monies.

So we did something very similar to what Highwood did. We did a reverse takeover on a Vancouver listed trading company. The trading company was Neptune Resources, Neptune was essentially a small oil and gas company with oil and gas reserves in Alberta. The company had Treasury money, and we were able to obtain the control block of Neptune Resources.

This all happened at the same time we optioned the property, which was last November. In December we had shareholder approval to take over Neptune. By the 31st of December, we had raised $300,000 of Treasury money, and $.5 million of flow-through money.

By the first of February, we raised an additional $4.5 million of flow-through money, put in a winter road, and were off and running with the property.

We had time constraints because of the winter road season, in that if we didn't do it now, and we didn't have that money in place in January and February of this year, we would have had to wait another complete year to do our program.

Because our program is more of a development program, rather than an exploration program. This property already has significant drilling on it. It is a known gold deposit, and it is a low-grade gold deposit. It needed innovative technology for development.

Before I go on any further, I am going to turn it over to Ross, who is going to describe a little bit about the property, where it is, and some of the geology.

R. BURNS: OK, thank you Peggy. I eliminated having the map showing where Yellowknife is, because I didn't figure you needed it.

The Colomac Project is located about 137 miles northwest of Yellowknife. This winter we put a winter road in that took off from the old Rayrock Road, went up the Emile River through Basler Lake, Mattberry Lake, cut east into Indian Lake area, and then north to Batten Lake where Colomac is located.

This is a picture taken of Batten Lake looking south. This long skinny lake, which is about 5 miles long, is actually Batten Lake. The deposit we are going to talk about is located in this area right in here.

This property has quite a long history, as Peggy has said. Right now I can tell you it is located about five miles northeast of Echo Bay claims, the Kim property which you probably heard about. You can see here Colomac is located in red.

The initial discoveries in the Colomac area were made in about 1935, down in this area around Letta, North Inca and Diversified. Everything came to a dead stop during the Second World War, and in 1945 Letta went back up in there, confirmed what they had up there, and made an announcement. This area was all staked at that time, although not by the same people shown here, that's for sure.

In 1945, there was a big staking rush in the Colomac area. Colomac property itself was staked, and a lot of work was done on this property at that time. Here you can see the remnants of an ore storage bin and a sampling tower that was used in that period.

This is from the 2500' of underground drifting and cross-cutting that was done in the area.

Here we see the portal. This is an adit that goes right into the side of the hill, very flat thing. There's about 2500' of workings off this.

This is a picture taken in 1945 of some of the underground workings. It's just a pretty picture with some nice quartz in here, and obviously what attracted the photographer was the quartz filled structures there.

The main thing about this Colomac deposit, and I'm going to stress it quite a few times, is the size. The scale is shown down here as 2 miles, and the Colomac deposit is shown as that yellow line.

Colomac occurs as a dyke or an intrusive within volcanic rocks which are shown here in green and orange. And to the west there is a gabbro dyke shown in pink.

So, the Colomac deposit here is about 5 miles long, and it has a width of between 30' and 200' wide, and it has several zones of interest.

The main zone of interest I showed you was the Zone 2 area. That has 13 million tons at .085, and throughout the length of the dyke, we have several other zones of interest, two in the north and two in the south of the main Colomac dyke. The Goldcrest dyke which is not shown here, occurs in this area, and there is another showing there.

To give you some sort of idea of the relative size of these deposits, Colomac Zone 2 is shown here, 13 million tons at .085, it's about 3000' long, and going from the north are various zones, the Noreka North zone, it's about 1100' long and has grades in the order of .076, Colomac North is 1850' long and has grades of .082, Indin Lake zone is 1250' long and has grades of .1, Colomac South, a length of 1700' and grades of .1, and Goldcrest East has 1800' at .15.

So there is plenty of potential. This zone here is the only one that is really drilled off. The whole rest of the dyke has been drilled at about 500' centres.

The total amount of drilling on the property comes to about 60,000' to date. 50,000' of that was done in 1945 and '46. Here you can see all these black lines and spots are all the drill holes done in Zone 2 of the deposit.

In 1974, another group, Cominco went in and had a look at this and drilled about another 10,000', and Newmont had a look at the deposit after that.

Having a closer look at the geology here, I will just mention that these awful looking light pink lines here are actually the underground workings. The green here is an andesite, and the Colomac dyke is shown in yellow here, and intrudes the andesite, and there is a gabbro dyke off towards the west.

That just about does it for the geology, Peggy, here's the mike.

P. WITTE: Thank you, Ross. Basically, after we looked at the geology, and after we looked at the mining potential of the deposit, we could see that essentially this was a very large tonnage, low-grade deposit.

All the previous companies that had been in looking at Colomac had looked at it knowing that there was a lot of low grade material there, and wondering if there was some high grade.

So it had been a teaser for several companies, in that they had gone in looking for a high grade zone.

We approached the project differently, from the standpoint of saying we are going to develop this project as a low grade deposit. We are looking for something in excess of 20 million tons of a grade somewhere between .05 and .1, and before we optioned the deposit, we had enough pre-feasibility work done to know approximately how many ounces in the ground we needed, and what kind of grade we needed to make a project fly.

So with the different ore zones that had been delineated, and on top of the work that Cominco had done on Zone 2 with the 13 million tons, we felt very positive that we had this kind of reserve potential there. And some drilling had been done as deep as 900 ft. with fairly good values at deeper levels and we cut off the drill indicated reserves at the 600 ft. level knowing that the only possible way to develop a low-grade deposit was through an open pit situation.

We then went ahead and looked at metallurgy and Cominco and Newmont had both looked at metallurgy on this deposit and had found out essentially that the ore is very clean, a fair bit of visible gold showns in the core that we are drilling right now, no arsenic or mercury or anything that was detrimental in the ore and essentially we looked at it from a standpoint of conventional cyanidation and from a standpoint of heap leaching.

Cominco had looked at heap leaching in 1974 and got 30% recovery on one sample that they tested in their Trail lab and walked away from it and said heap leaching will not work, without really investigating why it wouldn't work. So we approached it because we had a lot of experience in heap leaching. We did heap leach for B.P. Selco in Newfoundland, we had done the heap leaching work at Goradex here in Canada, and we had also done the heap leaching for Pamour in Timmins and we looked at this deposit from the standpoint of heap leaching it.

After some preliminary tests in our laboratory, we realized that the probability of heap leaching this deposit was not good because the gold in the deposit was very coarse. We could not get the proper contact time between the cyanide solution and the rock and the coarse gold. Because the gold was very coarse, it needed a long time to dissolve if you were just sprinkling solution on top of the heap. Therefore, the rock itself had to be submerged in the solution in order to drop the number of days for leaching down to a reasonable number.

So we devised a process flow sheet for the deposit which include open pit mining with the waste rock going to construct permanent vats, and I'll show you an artist's conception of what we are doing here, and the ore itself going to primary crushing, secondary crushing, and dry tertiary crushing which, up until this time, is not being used very much in the mineral industry but very heavily in the sand and gravel industry. Actually, two operations in Australia right now are using a dry tertiary crusher instead of a mill. This was so that we could mine and process, mine and crush ore year round. Then the crushed ore would be loaded into the vats which are lined with a high density polyethylene liner and these vats are flood leached five months of the year and the vats actually remain the permanent tailings area.

So, from an environmental standpoint, we never have to move the material out of the lined containment area. So it's just like having your complete tailings pond lined with plastic and a conventional gold recovery circuit.

We ran economics on this and the economics looked good. That led us to propose a $5 million program for this year and do the development work that was necessary to bring the property to a production decision.

If we look at a little closer schematic here of what the operation could potentially look like, we are looking at an open pit mining operation, followed by a crushing circuit which would be a conventional primary and secondary crushing circuit like you would see at Pine Point or at Lupin or at any operation, followed by a barmat crusher which would be a tertiary crushing operation, and then loading into vats with flood leaching of the vats in a conventional gold circuit.

We have an artist's conception here of what the operation could look like. If you remember the pit photo that Ross showed you, we have Batten Lake over here, we have essentially an open pit mine which would end up being, on Zone 2 alone, over a mile in length essentially and about 600 ft wide. On the other side of the ridge that you saw, we would have vat construction, so all of the waste rock from the open pit mine would go to build the berms and the vats.

Each one of these little containment areas in the vat is lined with plastic and contains approximately 150 tons of ore. So these containment areas will be filled 12 months of the year. During the summer months, the vats will be flooded and the gold will be essentially recovered by conventional technology in a process plant.

Now the reason that we looked at this kind of technology was mainly for economics. This project would not support the capital cost of a conventional mill, and the capital cost of a conventional mill for this size project would be about $150 million and the low grade would not support that. We have to look at technology which would cut capital costs to a minimum, and if you look at a situation like this you see we have a minimal amount of infrastructure here. We have a minimal amount of employees, a minimal amount of infrastructure, and we are only crushing the ore to ten mesh, which means instead of using 25 - 30 KWH per ton of power such as a conventional mills uses, we are only using 4 - 5 KWH per ton of power. So these things were imperative to make this project fly.

Just to go through some economics, and this will lead me into essentially participation by native groups from investment, essentially the production rate from a pre-feasibility standpoint would be 7,500 tons/day open pit mine, and this is ore. That would made Colomac the largest operating gold operation in Canada. This gold operation would be the size of many of the large heap leach operations in the States. With a minestripping ratio of 5.5 to 1, which means we would be mining at a rate of 48,000 tons/day which is a Pine Point size mining operation. This is the type of mining, the size and the magnitude we are looking at for the project.

The production of gold, from the standpoint of recovery from the vats over a seven year period, is 1.3 million ounces essentially, so we are looking at an operation that is going to be producing in excess of 100,000 ounces of gold a year.

Essentially, as I said, our feasibility was based on 22 million tons that we felt that we could get from selective open pitting several zones in the Colomac dyke with a head grade of 085 ounces/ton and 350 operating days. Our total employment force for this operation would 120 people. It would be a fly in, fly out operation.

Some capital costs, to give you an idea of what it takes to put something like this into production. Essentially, our direct preproduction capital; this is the capital that is needed for the equipment, the structure, the mining equipment, the nuts, the bolts, everything that goes into the capital, is about $73 million. Now this particular project has a very high working capital requirement of $15 million because we have to keep that operation going all winter long until we can process gold in the summer months, so we need a lot of what is called working capital. So our total capital requirement for this operation is $88 million.

So you can see by going to a vat leach situation like this, we have essentially dropped the capital requirement in half. However, we have only sacrificed approximately 20% in the recovery of the gold. So it becomes a trade-off between recovery of gold that you get; we could get 95% recovery of the gold with $160 million capital expenditure, or we could our 70-75% recovery of the gold, essentially with an $88 million capital expenditure. It all is a matter of economics.

Now financing. We raised our flow-through money that will get us to a production decision by the end of February, 1988 and, at that time, if our production decision is to go ahead we must raise some share capital that we can balance that with bank financing. The share capital estimate of this project will be somewhere between $10 and $30 million depending on what the banks look at from the standpoint of this project, and the risk in the project. This $25 million has to be raised as equity from Neptune.

This is one place where people like the Dene Corporation or Dene Development could actually invest in mining operations from a standpoint of investing in equity in companies which are going to a production stage. So this is one place. If the native group was not in a position, not seeing the profit significant enough to invest in flow-through financing for the preliminary stages and were interested in something which is a much lower risk, then equity financing in some of these operations is an ideal place for these groups to become involved. We would welcome, at Neptune,any involvement at that stage.

Our long term debt would then become $63 million, writing it off over five years, essentially our base case economics was done on $400 US gold and a 72¢ Canadian dollar.

Our ore and waste mining cost is $1.18/ton and if you remember our stripping ratio was 5.5 to 1, which means to get one ton of ore to the mill we have to move 6.5 tons of rocks. So our mining costs per ton of ore is $7.67, our milling costs are $7.55/ton, we've got refining, administration, overhead. Our total operating cost is $16.53/ton, for a direct production cost of about $200 US/ounce which is very comparable to many of the heap leach operations in the U.S.

This deposit itself, if it wasn't located in the Northwest Territories and the stigmatism of the Northwest Territories and this cold, awful climate up here, and awful working conditions wasn't attached to it, would probably be one of the biggest world class heap leach deposits ever found. The tonnage potential in that dyke of something greater than 05 ounces/ton is in excess of 1/2 billion tons. That dyke is 5 miles long, the deepest holes we have are at the 900 ft. level. It is still open at depth and the width varies between 30 and 200 ft. So it is considered by many people and by geologists who are used to looking at these types of deposits as a world class heap leach deposit.

Ross, do you want to explain what's going on at site right now.

R. BURNS: Well, there's quite a bit of activity going on right now, Peggy. This is our camp. We just moved in in this photograph and since that time, we've built right here where you can see them scraping, we've built five fuel storage tanks totalling 70,000 gals. of fuel. We now have sufficient cyanide, lime and chemicals and equipment on site to do a complete test of our ideas.

The testing of the ideas will involve mining approximately 60,000 tons this summer, of which we will use about 45,000 tons to build the dyke which will form the vat. We'll line it with plastic. I don't think the plastic is in. Perhaps this is the roll of plastic lying over towards the back here, you can't see it, but this stuff is very, well, about 1/8 inch thick this plastic. We use it to line our vat and put our crushed ore in there and test it and hopefully by October, we'll know whether our thesis works. I don't think there is anything more that needs to be said.

Oh, drilling. At present we are doing a close space drill program to test the continuity of the ore on the ore reserve, at the ore reserve sort of stage and we are drilling it right down to 25 ft. centres. And a further drilling program to follow up the decision of how we should drill this thing off in a production stage, that drilling, probably totalling about 30,000 feet, will be done later this summer and probably this fall. And that's it.

P. WITTE: Just a couple more comments I wanted to make. Things that essentially Neptune is doing right now from the standpoint of involvement up here. As I said, I am new to the North and the first thing I did was surround myself with some staff that knows the North, essentially some ex-Pine Point and Polaris people, so I think we have a very good staff together.

We have already commenced talks with the native groups from the standpoint of making community visits.

We need a water licence to proceed with our 60,000 ton bulk sample and vat leach this summer, consequently we have a Water Board hearing the end of April and we are making community visits to all the relevant communities in the area, which includes Snare Lake and Rae and Rae Lakes, from the standpoint of discussing with the people what we are doing and what our long term goals are.

All of our services right now are coming from Yellowknife. Anything that can be procured out of Yellowknife is being procured. Our expeditors here are located in Yellowknife and essentially we are just starting to talk about the possibility of some native involvement in the equity financing on the project. And we've just started to make some calls to look at this.

We are in the very early stages. We have only been at this for 2½ months. It's a very fast-track project with a $5 million expenditure this year and a production decision by February of 1988, so we don't have time to waste. We have to leave no stones unturned. And because we are in a fast tracked program with a production decision coming early next year, we are starting already to look at putting our financing into place for production.

Possible opportunities for native groups, or Northerners of any type, would be essentially in the production phase that we can see which would be contracting for things like flying services, camp services, even a group to actually lay these liners that we are using in the vats. They have to be fused together by special technique, and we have to hire people now out of B.C. and out of Ontario to do this there would be a fair bit of work in that for some group to set up a company. There are unlimited possibilities from a standpoint of services that could service an operation like this.

Right now, it is anticipated that our fly-in, fly-out will be out of Yellowknife, so that we will be using a labour force out of Yellowknife on probably a ten day in, ten day out, or a one week in, one week out situation.

As the project progresses this year, more of these ideas will gel and we'll certainly be in communication with people.

Discussion:

D. NUTTER: Thanks very much Peggy. I guess after that I might ask where we line up to buy our shares, but this again I think, as I said at the start, another example of a group coming in, another junior in this case, but of a group coming in and applying some new ideas. In this case, my understanding is they are all ideas that individually have been tried and proven elsewhere, but a group coming in to a new geographic area and a new environment and putting a number of different proven technologies together and attempting to make them work in this new area. I think that that kind of innovative thinking, while we do hope that they are successful and wish them every success in this venture, even if this one does not prove to be successful, down the road, many of these ideas will find themselves applied elsewhere.

I shouldn't monopolize any more. Does anyone have any questions or comments to make? Bob.

R. SHANK: Peggy, what's the estimated leach time per vat?

P. WITTE: The estimated leach time per vat is about a month. But what we will be doing is we will be going back in further years and we will be releaching each vat again. We obtain about 72 - 75% recovery in five to ten days in a laboratory and we are extrapolating that to a month in a vat leach situation.

QUESTION: How much gold could you produce in a year when you are running full out?

P. WITTE: About 100,000 ounces a year. One interesting thing, in raising money for a project like this and in going in to see brokers and such, we talk about this being a world class heap leach deposit because it's basically a porphyry gold deposit and it's big and it's amenable to heap leach type technology. When you walk in to a group of investors and you tell them that you are going to vat leach or heap leach or whatever you want to call this, or surface extract as someone was saying earlier, under these conditions they all laugh at you. It's been an awful experience trying to raise money because of their perception of what the North is.

It's like my perception of what Canada was before I moved here. I was here in Canada about a month and my Mom called me up and asked me if I had to take a dogsled to work and I was living in Toronto, and I think that education of people is very, very important when it comes to development of the North and not only education of the general public but education of the mining community to attract the money up here and show them what can be done, because certainly you know we've done development projects in Labrador, Newfoundland and now and in Northern Ontario and we are not finding this project in Yellowknife any different. In fact, things have actually gone smoother, the people are more cooperative, it appears so far that the people want us here which is a change from some of the other provinces.

We are very happy to be here but we think certainly some education needs to go on within the mining community itself to attract new industry and also to bring them in and welcome them in from the standpoint of knowing there is going to be cooperation.

D. NUTTER: Thanks Peggy. Yes, Doug.

D. ALLEY: What will happen to this after the mine is shut down? What will happen to the chemicals left behind, or whatever?

P. WITTE: Well essentially there won't be any chemicals left behind because after approximately 3 to 4 years, each vat itself will be washed. So the cyanide that's in the vat will be washed out and a water balance will be held within the plant and the cyanide will essentially be recovered and reused by a process called the Sitec Process. And at that point, after the operation is completely finished, the whole operation itself is on a graded slope and essentially the whole vat area that you saw in the photograph or in the schematic will be covered over and revegetated. So there will be no more chemicals left on site and essentially there are no large holding ponds like you see in heap leach operations in the States because the vat itself is a holding pond rather than having to build holding ponds for heap leaches.

D. NUTTER: Thanks Peggy and Ross. I guess if there are no further questions, our next speaker, we are moving into a new area here for the final speaker of the day, and that's titled the Economics of Development. Our next speaker is Dr. Herb Drechsler, who is a consultant out of Vancouver and he is going to talk about options for raising capital. So I think everybody including Peggy and Ross and Rolly Trenaman, etc. will listen to this.

Session No. 3: THE ECONOMICS OF DEVELOPMENT

OPTIONS FOR RAISING CAPITAL

H. D. Drechsler
HDD Resource Consultants

D. NUTTER: HDD Consultants are a Vancouver based mineral economics consulting firm who on an international basis, provide advice to corporations interested in mineral development and advise them particularly on the economic aspects of mineral development. Of interest to the group here today, is that one of the current clients is a group named Nisto Development Corporation which is a joint venture of the Swappy Cree Tribal Council, the Manitoba Metis Federation and the Northern Association of Community Councils for the Province of Manitoba. And as I say, Dr. Drechsler and his firm are currently advising this group on the development of comparable businesses in The Pas region, so I'll turn the microphone over here.

DR. DRECHSLER: I just came from The Pas and I want to assure you that it is colder there than it is here, there is more snow and the sun isn't shining any more than it is here, despite being in the South.

One of the advantages of being last, following Rolly Trenaman, is that I was going to do about the same as he did and comment on some of the other speakers, but my first reaction during Rolly's presentation was that he is really the very ______ of Yellowknife but I'm wrong. Rolly, I presume, was taking lessons from the last speaker.

I was at a presentation similar to this three years ago and there were some of the same people that are here. For instance, we are going to be followed tomorrow by the Ghost Lake Resources people from the Dogrib Band and, at that time, I went to a very elaborate presentation to argue that the aboriginal people should forget about getting into the mining business and should concentrate more on providing services to the mining business. This came out of my argument that the cost of getting into the mining business was extremely high, the revenues were highly uncertain and the risk was too high for groups like the aboriginal people who don't have the background andtechnology to get into the mining business. However, they did have the background and did have the technology and did have the know how to provide the services to the mining industry. Let people like Peggy Witte and Rolly Trenaman raise the money for the industry and then be aggressive to take away from these people by providing the services, because this is really how the system operates.

So it's almost like a dream standing here again trying to go through essentially the same argument. The mining industry, of course, is really composed of four "M's" - the mineral, the market, the management and the money. And I'm going to be talking about the money today and I think right at the outset, we should forget about the larger mining companies since none of the aboriginal people here are going to be involved in any way of financing, in terms of the larger companies, the Echo Bays who are in the back, the Cominco's, the Noranda's, any of these companies who have internal sources of financing and large bank financing sources which are not available to the aboriginal peoples. So forget that, it's just not a relevant subject and I think what we should talk about then are the two relevant subjects, one of which is raising money for the junior mining companies, and raising money to get into business to provide services to these companies.

Currently, one of the jobs that our firm is working on with the Nistu Corporation and The Pas region is raising money from N.E.D.P., C.E.I.C., D.I.A.N.D., or anybody else, that will provide financing and we can probably get up to 75% financing on packages up to $7 million from these groups, if we can convince some of the native peoples themselves, the aboriginal peoples themselves, to contribute.

Now there has been a history in British Columbia where one of the bands had managed to put together $500,000 of their own funds. That is going to be combined with $7 million of N.E.D.P. funds. That will then be used to finance a lending organization, a type of credit union, but it will be used to take money into the lending organization, and be used to lend money out. This will then be used as a lender of last resort to aboriginal people and organizations that want to put together exploration, not exploration companies - but provide services to exploration companies.

This includes such things as doing field work. Now it turns out that there are a lot of aboriginal people who have experience as diamond drillers, there are a great number of them that have experience as welders, as steel erection people and these organizations then can, companies can be put together, can bid on jobs and compete very effectively to do the work because they, the aboriginal peoples have an advantage in the North, in that they are already here.

Most of the people from the South that would be bidding on these jobs have to bring people in and that costs more money than to start in Yellowknife or in other areas of the North and start building your own companies. What it requires is a desire of entrepreneurship. And this is a very difficult thing to teach. I spent several weeks in Inuvik working with the Inuvialuit Development Corporation here recently, trying to work with them to teach the concepts of entrepreneurship, how to look for business opportunities and then work with the available governmental organization that can put together project plans and financing plans so that these companies can be put together and formed and operated in an effective way.

I really urge you to utilize these sources which are available to you, also the training systems which are available to you. It's possible to get C.E.I.C. funding to put aboriginal peoples into these operations and help the junior mining companies raise money simply by having outside funds pay for the training. I think this is another way of utilizing these sources of funds that are sitting within the government to help junior mining companies get started on that side, and that is, to put a blend together of the government money and your know how into the junior mining companies who are actively soliciting those funds and to start developing a training system and to upgrade the skills of the aboriginal peoples.

Now I've recognized that the junior mining companies have no assets, they have no profits, consequently they have no cash flow. That means there is no money coming in and if I use words in my discussion here that you don't understand, ask afterwards. I try not to speak in jargon but it works out that way. I guarantee that I won't use words like diabase and dyke and things like that. It's irrelevant in this particular meeting.

It is impossible for these junior mining companies, or practically impossible, to borrow money from banks. The reason is that the banks want their money back, they want to have some kind of collateral, and if the junior mining company does not have the collateral in back of the potential loan, they can't borrow the money. So forget about that source. It does not exist to junior mining companies.

What does exist is raising money in the speculative exchanges. Now recognize the speculative exchanges; I'm talking about the Vancouver Stock Exchange, the Alberta Stock Exchange in Calgary and the Toronto Stock Exchange and, in some cases, the Montreal Stock Exchange. Forget about any stock exchanges in Winnipeg; I think that for mining purpose that's out. Montreal, Toronto, Vancouver and Calgary are really the key things. Recognize that people will give you money based on the idea that this money they give you will be used to buy shares at some low price. Hopefully your promoter, and I'll go into this, will be able to encourage the rise of the price of these shares so the shares can be sold again. Recognize that the shares themselves will probably not pay dividends in any reasonable period of time. So you don't buy shares to earn dividends.

There was some research done in the United States that shows on the average, the typical period of time that it takes from the time a deposit is found until it comes into production is about 45 years. So if you believe in net present value, which is a little jargon, which means you can get your money back, the probability is very small that you are going to get it back in terms of dividends. With good promotion, the probability is very high that you'll get your money back with a profit by selling your shares to someone else. I call this the theory of the last sucker. That is you want to sell your shares before you find you're the last one that will buy them. But this is really the nature of the speculative market in Vancouver, or Toronto, or Montreal.

I think, if you are going to get into this kind of a business, where you are going to start a mining company, you are going to raise money through one of the stock exchanges, and then this money is going to be invested in exploration and a highly risky exploration, recognize that the investor is looking primarily for capital gains and wants to sell those shares to someone else. And that is going to be your primary source of funding.

Now there is, in Canada, there is another source of funding which are flow-through shares. The flow-through shares are a gimmick, I don't want to use jargon, are a formal policy of the Canadian government by which money can be put into companies for exploration purposes to encourage the finding of minerals and jobs - the development of jobs - and the people who put in the money will get a tax advantage which formerly would have belonged to the mining company had the mining company been successful. So the way the wealthy people will get an advantage and reduce their taxes is by buying flow-through shares and expecting that the promoters will raise the price of these shares so that they can gain a capital gains on it.

From the mining company point of view, the negative side is that it increases the number of shares outside against the company and removes the tax deductions if the company is successful. But it is a major source of funding and if you are a promoter and you are in the speculative business this is a way to get money. So the two key ways for junior mining companies to get money are to sell shares either through some stock exchange or through a private placement, which is another alternative.

Private placements occur when the promoters, and recognize if you start a mining company you are defined as a promoter. That becomes your title, you get a job title, you become a promoter. You go to certain people who are wealthy and convince them that they should put money into your company. If they are not wealthy, it is possible to raise money from friends, and this is a very common way of raising money for speculative purposes, is asking a lot of friends to put in some of their money if you can get... as one example, the Plaza property which Rolly Trenaman worked on which had a property up at Cassiar, the promoter on that went up and down Vancouver Island selling shares to a group of people who like to speculate.

The promoter was Chinese and I would suspect that half of the Chinese population of Vancouver Island own some shares in that property which subsequently went bankrupt, and Rolly and I lost money. Another story. And this is basically what promoters do. What you saw Peggy Witte doing and what Rolly was doing is going and putting on a presentation, as you saw here, and going from person to person and simply ask them to invest into your particular venture. And that is the job, and this is how the money comes into the firm.

That money then is utilized by the geologists, the engineers, the drillers, the field personnel, the mechanics, the cooks, eventually the truckers who bring things in, or the helicopter pilots that do the flying, or the mechanics that maintain the equipment. This money is utilized by this group of people and and it was originally put together by the promoter. So recognize the great value of the promoter. Without that promoter there is no money. It has a purpose and it has a major function.

Now, basically then, and I'm not going to take any more time because I was told to talk for 15 minutes and I'm there, there are two problems. The first problem is if you are a junior mining company, is how to get started in an exchange and how to start raising the money. I think that's a subject for another discussion. I think tomorrow probably the people from Ghost Lake Resources might want to discuss that one I think because they have a lot more experience and they are one of the aboriginal peoples and they have their own mining company. Is that company traded publicly now? No. Okay. So there will be an interesting case study right there and that's a real venture put together by a group of entrepreneurs of the Dogrib Tribe.

The second is the providing of the services and here the sources of funding to train you and to get started and for the financing which are available through various government sources, such as N.E.D.P. or C.E.I.C., there used to be Special ARDA, but sometimes it's a little more complicated now. And this is the background and that's it in a nutshell. Now if you've got any questions, I would be willing to discuss them.

Discussion:

D. NUTTER: I'll let Herb take the questions directly. If we could start off here.

H.D. DRECHSLER: I know a number of these people we've been doing the same thing for years, so.

R. SHANK: Yes, Bob Shank. Herb, you've done a service I think in outlining two very important issues here. One really important issue, but maybe there are two. And that is, you've differentiated between investing and speculating and I think that's the difference. If you people are thinking there will be a large amount of money that you may get from land claims settlements and what to do with it, you are going to have to make this distinction when you start to handle that money, as to what you are going to do.

If you want to maintain the capital and earn interest on it, you invest it. If you want to gamble, you speculate and there are certainly returns possible both ways. Speculating is similar to buying a sweepstake ticket or playing the ponies, the horse races. It's that same type of risk that I indicated on my graphs earlier as far as exploratin goes, speculating. You are most likely to lose your money but if you make money, you will likely make big money. And that's the name of the game. I think Herb has done a major service in bringing that point out to you. Thank you.

QUESTION: Herb, here's one observation. Relative to raising money by the flow-through share route you compared to public underwriting. I think that, and as far as I'm concerned, relates to relative efficiency with which that money goes into the ground. Because of the way the flow-through situation is legislated by decree or by all records and expenditures have to be vetted by accounting personnel, CA's and those become documents that can be reviewed by Revenue Canada or other people, and I believe there is a maximum that may be charged as head office expense. It may be 10%, 9% or something like that, so in terms of the effectiveness of money that is invested by the flow-through investor, 90% of that should find its way into the field, being to provide services for something.

The same can't be said for underwriting that is done through the public underwriting process, the various investment houses in Vancouver. Quite often it can be that the charges for raising that money when you finally get down to it, represent 40% to 50% of the total dollars that end up in the hands of the company to expend in the ground. I think there is a much more efficient way, although in terms of, if it's going to achieve the results for which it designed, and that is to expand the knowledge of the mineral reserve or whatever.

H.D. DRECHSLER: Yes, I think that's a good point. With the current policy coming out of Ottawa for taxation, the fast, easy way to raise money is through flow-through shares. There are a couple of flow-through share organizations which have put together huge packets of money in the order of $100 or $200 million. It's possible to go and see one person and get a big pile of that money, or a relatively big pile of that money.

That doesn't completely solve the promoter's problem. The promoter still has to pay the lights, the heat, the rent, the offices, the office staff, and that can be a very substantial amount of money. So that the promoters of the company are still forced to go someplace to raise enough money to be able to support that overhead to run the company. And this problem has yet to be solved, because that money to run the company... after all the promoter's function and responsibilities make the company survive, so it's more than putting money into the ground. I would like to see government in Ottawa putting together some money to be able to help the promoters keep their companies alive.

P. WITTE: Just along that same line, basically the rule of thumb is that if you raise $5 million of flow-through funding you need a treasury of at last half a millin dollars to support that flow-through funding expenditure. So if you go out and you are able to find a small piece of property and you want to do a small drilling program of let's say half a million or $1 million, you need treasury money of at least $100,000 to support that kind of program. If you don't have that money in your treasury when you walk in to get flow-through money from a fund, you won't qualify. So there are certain qualifications from the funds, like C.M.P. and N.E.M. and M.V.P. and these large funds and in order to even qualify for them to invest in your company, you have to have a significant amount of treasury money.

And he's right. That's the hardest money to raise. We were very lucky because we raised it early in the game, but we raised it at a very cheap price too. Realizing that we were going to have to raise flow-through money we put our treasury in order first before we went out to look for flow-through money.

R. DOUGLAS: Herb, you mentioned the service aspect of the native corporations and I think one of the things I mentioned was re-inventing the wheel every time we do something. I've had some experience with the native corporations in Alaska and they have had their land claims settlement for some years, and some of them have been very successful, and some of them have been a disaster. And I would suggest that you can learn a lot by talking to those people. We were fortunate in that the people we were talking to, the Nana Group were one of the successful ones, and had learned a lot, some of it the hard way, but were able to put it together and manage their money in a very sound manner. I was quite impressed with them.

All I'm saying is, if and when your land claims settlement comes through you may wish to use the experience of others.

H.D. DRECHSLER: Yes, my experience has been up in Inuvik with the Inuvialuit Development Corporation and their investment portfolio and there have been some successes and there have been some horrible failures and I think there are going to be. I think there is nothing wrong with that, this is just the way the world is. Cominco is a typical company that has had some horrible failures as well. I am trying to buy one, called Western Canada Steel.

COMMENT: You can get it for nothing now.

H.D. DRECHSLER: No. No. Bob Stone won't sell it for nothing, which is another subject.

D. SANDERCOCK: Don Sandercock here. Herb, in the service aspect where natives potentially could provide services for mining operations and you go out to tender for services, do the companies have to have bonding of any sort, do you know?

H.D. DRECHSLER: Yes they do and this has been a major problem. It goes beyond that. I have the same problem with my little company. When I try to tender on some jobs through the World Bank I have to put up bonding. I've had joint ventures with Cominco and as a result of bonding, we ran into some enormous difficulties because I had difficulty getting bonding. It turned out that even Cominco's subsidiary had difficulty getting bonding. And today, because of the Bopal disaster and some of the other disasters, it is extremely difficult to get any insurance company to support performance bonds.

I think this whole subject of performance bonds for smaller companies such as the aboriginal peoples' types of companies that will end up as smaller companies, or even my company, has to be really examined in the context of Canadian business policy. Because of the insurance aspects of it, if you require bonding and you can't get it, you can't get the job while you may be completely competent to do the job. So this is a very serious problem and I think it becomes a governmental policy question rather than an insurance question of private insurance companies.

D. SANDERCOCK: So the problem, in some cases, of getting funding from N.E.D.P. or Special ARDA or E.D.A. or any other government source of funding, that's only one of the hurdles. If they can get set up operationally and get good equipment, even to provide winter roads or clearing of sites or anything, but if the lenders... I presume in a lot of the junior companies is not the junior company executive that requires the bonding, but it's the lending policy of the banks or whoever loaned the money to the junior mining company that would require the bonding to ensure that that money is protected.

H.D. DRECHSLER: Well that's true for projects that are going into production, but for the type of projects we are talking about and the type of jobs, these are purely exploration jobs and these are support services for exploration coverage. I don't think in that case, we're dealing with what I consider the World Bank type of situation, we are dealing with highly speculative and I don't think that the two companies that presented here really are looking for major bonding in back of the aboriginal peoples' business corporations.

So I think on the one hand there is a bonding problem, if you are talking about going to work for the larger companies, on the other hand I don't think there is a bonding problem if you are going to work for smaller companies. However, the smaller companies sometimes don't pay their bills, so there is a risk in there too. There are two ways to look at that problem. Fortunately, the larger companies on the average pay their bills.

COMMENT: The Department of Indian Affairs currently has a program that addresses that concern to some extent. I.N.A.C. provides assistance for development corporations, native corporations, in obtaining performance bonds, security bonds, whatever. So they have a program in place right now that addresses that.

QUESTION: What was that?

ANSWER: Indian Affairs.

H.D. DRECHSLER: Just to finish off, if there are no more questions, I'd like to make a point and that is that one of the things that we've done in Manitoba with the small native communities. This is the aboriginal peoples' communities, these are Metis communities, these are Cree communities, and some of them range in size from 20 people to as large as 200 or 300 people. So we are dealing with very small communities. And we spent a lot of time in each community trying to learn what the problems of the communities were and how they saw the businesses.

One thing that came up time and time again was the inherent fear of making mistakes in most of these communities. I'd just like to make a comment on that. I don't care where you come from, whether you come from the South or the North, the problem is not making mistakes. After all, they put erasers on the back of pencils to correct mistakes. The problem is correcting mistakes. So whenever you make a business investment you are going to make mistakes. I think you start off, there are going to be mistakes. Your management know how has to come out of correcting these mistakes and your confidence in running this business has to come out of, not out of the fear of making a mistake, but out of the fear of not being able to correct the mistake once you find it.

Finding the problems is much more intriguing and interesting than solving problems and it's much more difficult. The function of any business manager is not solving problems, it's finding the problems of the business. I just want to make that statement.

D. NUTTER: Thank you very much Herb. I think that was a good wrapup on the day and we'll actually continue tomorrow with more discussion financing and the economics of development. But then some of the other issues that were discussed later this afternoon, both issues of government support which Herb has referred to and also examples of native involvement in the mining industry, on-going examples, will both be touched on tomorrow afternoon.

PROJECT EVALUATION AND ASSESSMENT

J. Marshall
Strathcona Mineral Services

D. NUTTER: Just a couple of introductory comments. I've probably been a little bit lax yesterday as moderator as far as people identifying themselves and I stress again this morning that if anybody wishes to make any comments or ask any questions of the speakers, we would really appreciate you identifying yourself for the record because as I said yesterday there is going to be a transcript and it would help us in preparing the transcript to identify who the speakers were. And also, to get back, if certain questions are raised by individuals, it would help us to be able to get back to the speakers at a future date if more information becomes available in their area of particular interest. So let's all try to remember to identify ourselves and our affiliation as we do speak up.

Our first speaker this morning is Jim Marshall. Oh Jim, just one thing before I bring you on. One more piece of paper at the back and this also has been published by the Geology Division of Indian Affairs and Northern Development and it's called An Exploration Preview which is a preview of the expected exploration activity for the Northwest Territories for 1987. Obviously, it's not comprehensive, it doesn't tell us everything that's going to happen in exploration activity for the coming year, but where the district geologists, through conversations with company representatives, where they are aware of particular projects that are going ahead this year and have been budgeted for they've made notes and included them in this preview. So there are copies at the back of the room which people can pick up at their convenience.

So leading off this morning is Jim Marshall. Jim is a Project Manager for the Nanisivik Mine. He's going to talk to us about project evaluation and assessment and the processes that a company will go through in evaluating a project and determining whether or not it is feasible to proceed in production. Jim has a good deal of experience in this area having served in this role with both the Nanisivik Mine back in the seventies when they were proceeding to production and, more recently being involved in pre-feasibility studies for the Kiqqavik uranium property to the west of Baker Lake. They've just completed a pre-feasibility study there. So Jim if you'd like to kick off.

J. MARSHALL: I think most of the people are here to find out if anybody can explain how to do this in 15 minutes and I really make no pretense of trying to do that. I've put together an outline of some of the points I want to cover. I don't know if everybody got one. It might be easier just to follow it through that. Were there enough for everybody to pick one up? Anyway, I will go through some of the main points.

Native development corporations, I think, have an opportunity, obviously, to get involved in mining in a number of ways. It could be developing an entire mine obviously. It could be just sharing in the financing of an operation to which there were some references made yesterday by some of the speakers. Certainly I think it's based on the fact that there will be funds available, probably through the land claims settlement.

I think of the one case we were involved in in the Eastern Arctic with the Nunasi Corporation, a rather unique situation where they actually borrowed money from the bank, $25 million, and then loaned it to Cullaton Lake Mines. It's not very often you think of the debt situation. Actually, that probably didn't work out as well as it should have for everybody involved, except Nunasi did fairly well out of it. I think the main point there was there was not a feasibility study done and had it not been for the fact that Nunasi got themselves one hell of a good deal with a personal guarantee in it, they never would have got their $25 million back.

So it's a risky business. I think primarily when you get to that point of mine development, you are looking at very major expenditures. Some of the numbers you saw yesterday. You are probably talking $25 million at the minimum for a small gold deposit depending on the accessability to a place like Yellowknife down here and civilization, it may only range $25 to $50 million. Certainly if you start in the more Northern remote areas and you are looking at base metals or uranium, I don't think anybody is talking less than $200 million.

Exploration also is a very risky business. You might spend $500,000, you might spend $1 million a year, but the amounts are fairly small and you are spending them step by step. But when you get to the point where you think you might have a deposit, now you are looking at very major expenditures and now you have to have high quality information. So there are two steps to the process.

One is to assess the actual operation as to how it would be run, how much it would cost to build it, and how much it would cost to run it. And then, once you've gathered all this data, then you evaluate it in terms of is it a viable operation? So I'll go through some of these points fairly quickly, hopefully with some reference to some of the more Northern operations to give you some idea of the scope.

Certainly the very first thing in the assessment is the most critical thing in any mining operation. Most of them that go broke do so because they didn't have enough ore there in the first place and I think if you are at a feasibility study stage or if you are considering a major investment, you should have some independent party, other than the people who are trying to raise the money, do a feasibility study. And the geology and the information that they should take should be very basic. You don't particularly take the plans and sections that the developer has drawn up and accept them. You go right back to basics. You take the location of the drill holes, you plot them, you put the assay results on. You have someone independent decide whether the ore is there or not. And that can be very enlightening as to what you were originally told was there and what an independent may calculate is there.

Then the second step, of course, is, regardless of what's there, you've got to mine it. So you will need someone to design a mine, whether it's the open pit type of mine or an underground mine. And here you start to cut down these geological ore reserves because there are certain parts of the mineralization that you couldn't mine anyway. It's just too thin, it's too far removed from the main mine, so you always cut down a few tons. This is particularly true in an open pit where, if it stretches out, you find that the amount of waste rock that you'd have to remove to get at a little bit of ore is far too expensive, so the pit starts to get smaller until it looks as though it will make money.

So, again, geologists interpret orebodies on plans and they look very nice but once you superimpose a mine that you can actually work on these plans, you've probably cut the tonnage down again and there isn't what you thought was there.

Then you figure out the mining method, how you are going to do it, and in most mining methods there is a minimum amount of rock that you can take. If you go underground, you can only go so wide. Some of the mines, I think up at Terra, some of the veins were pretty narrow and some of the miners were pretty small, and they were going through there, probably two feet wide following these veins. But if it's at all mechanised, the machinery is of a certain size, so if the vein is narrow and you've got to take this much, then you are taking rock that has no value in it and the grade of what you are taking automatically becomes half of what you said it was in the first place. This is dilution.

It happens in open pits also. In open pits you need very large equipment. You can't go in with a very large front end loader and dig exactly to a line. You've got to take waste on both sides. So you figure out that maybe in the mining process, you are going to take as much as 15% waste with the ore, just because your mining method doesn't allow you to use any smaller equipment.

So, again, you have your ore reserves, you've had them cut down because of the mine design, now you have them diluted because of the equipment and the method you are going to use, and you come up with a mineable ore reserve and that's the term you really want to remember. It's what can be mined and at what grade will it actually come out of the mine and head for the mill because that's what you are going to base the economics of this thing on.

So if people are showing you geological reserves, and you really aren't that interested; it's an interesting figure that maybe represents potential, but it doesn't represent what you should be basing an economic decision on as to whether or not you are going to invest in a project. How are they, in fact, going to mine it?

The next step in the mining process that you want to look at in the feasibility stage is, of course, concentration. There are very few operations that one wants to go into the expenditure of a mill, fairly large expenditures, unless the developer of the property has gone into the property, underground usually, and come out with a bulk sample. If it's just a question of a number of core samples that they've put together the risk is much greater.

You really do have to go underground, get a bulk sample, send it to a laboratory and do a lot of testing on it, testing as to how much power it's going to take to grind it up, what reagents, how much time. There is a lot of metalurgical testing to go into. The fact that when the ore gets to the mill, can you really separate out what you want and what you are going to throw away. And, of course, at the same time, you have to do a few studies on the stuff you are going to throw away because that has an economic implication also. If the tailings, as they are called - the heads come in, the tailings go out contain problem metals, that must be considered. And certainly around Yellowknife, things like arsenic are not unknown.

So cost depends on what's left in the rock also that you are going to deposit back out on the surface. How much is it going to cost you to treat it? And that could add a considerable cost to your operation, so you certainly want to know as much about your tailings as you do about what's coming into the mill. And having, as Dave said, just completed this feasibility study for this Kiqqavik Uranium Project, obviously they are at one end of the spectrum there, they have totreat everything that's coming out of the uranium operation. They have to put every drop of water back through the mill and precipitate out the radioactive substances.

So there's a fair part of the operation that can get involved in the milling end of it, both to get the valuable minerals out and to make sure that the toxic minerals are not distributed on the land.

So if your operation then has a mineable reserve which looks reasonable, you can separate it in a milling operation that's known, and you've determined all your quantities, you can then have gone to support services, a lot of things that often don't come in. Power can be quite critical, obviously, in a fairly remote area. Some of these projects yesterday, when someone shows their project with a power line running right through it, you have no idea what that does to a mining engineer. He's home free. All you need is a power line anywhere near, otherwise, you've got to generate all your own electricity and I suspect some of you buy your power from N.C.P.C. so you know how much per KWH it costs to make electricity in a remote site. It will become a very high cost part of your operation if you are generating all your own electricity. And that is certainly the standard of any project we have worked on that you have to include a power plant.

The real clue there is, to keep the cost of electricity down, you also design it in such a way that all the waste heat that is generated by diesel engines producing electricity you pipe that off and you run it everywhere in the mine, the mill, everywhere else, and you use it. Just as a rule of thumb, in a litre of fuel, only 1/3 of it goes to produce the electricity; the other 2/3 goes as waste heat. So you can imagine. If you can grab a lot of that waste heat, you can lower the cost of electricity considerably. So you certainly want to look at your power setup and how well you can use it.

Water can be quite a problem in some areas. Just getting enough water to operate a mill. Most mills run by having crushed the rock very finely and then pumping it all over the place in a slurry. So you need a lot of water. Again, to go back to the Kiqqavik Project, it was two tons of water for every ton of rock. So you need to put a lot of water into the operation. You've got to find a source, you've got to find a source you're not going to dry up and potentially kill all the fish life, so you may have to go quite a way to get water. Polaris had to go quite a ways. Certainly there are different places where just a good deep source of water, of good quality water, in itself can be a challenge.

So power, water, again, the more remote you are the more complete your maintenance facilities need to be. You need all your own shops to repair things. The cost usually of sending components out becomes extremely expensive. Many components on heavy equipment just weigh a lot by their size, but the cost of fixing them isn't much but the cost of flying them back and forth to Edmonton or wherever is very expensive. So your shops tend to be much more extensive and you have to build that in when you are laying out what you are going to do.

Administration facilities. Again you are probably out there all on your own and you've got to do everything. If you do your own training, accounting, safety, you've got to warehouse a lot of supplies. Again, being in the Eastern Arctic, we tend to be quite accustomed to buying a year's supply of everything because it only comes in once a year on the boat. Down South, in this area, you have better access. You can get in and out maybe more than once a year. But certainly your warehousing facilities have to be fairly large if you are going in on a winter road or if you are going in on a ship in the summer. It's doesn't matter. You are still buying a complete year's supply of fuel and a lot of other reagents. So you are going to have a fair warehousing operation there.

And things that have come up such as training, if you intend to use a large proportion of the local population you need a large training facility, and you build that right in. You have to consider all these things in your assessment of, of course, each project.

Communications help. I think there probably isn't an operation that doesn't use satellite communications, not only for recreational purposes obviously, telephones and television, but you can keep the size of the staff down to a minimum if you are able to transmit data to a city like Yellowknife where you can employ people more cheaply, I guess is the expression. The cost of having a person out in a remote camp is probably twice what it is, by the time you fly them back and forth and feed them and house them and everything else. It's very expensive to have a person at a remote site, whereas the more functions you can do by transmitting information by satellite, then you can keep your costs in line.

Transportation undoubtedly comes into play when calculating the operating costs. Kiqqavik is probably one of the worst ones I've seen, 80 km west of Baker Lake and even into Baker Lake you can only get in with a barge. They are trying to figure out the best method of transportation. Certainly Echo Bay tackles their project; transportation is the name of the game. They've tried winter roads, they've flown it in. You have to try everything. At Kiqqavik, I've even been in touch with people who are very keen now on lighter than air balloons, zeppelin type machines, because there are more of them available in North America and maybe you can rent one for a couple of months. There's no limit.

When you get into handling equipment more than once over long distances, the transportation costs can be considerable. How often are you going to fly your people back and forth? And where are they going to come from? Do you need an airstrip that will take a jet aircraft, or can you get by with something maybe 1,000 metres that will take Twin Otters or 748's. You are definitely usually tied into a serious transportation aspect.

When one thinks of Izok Lake and Bathurst Norsemines, there are two deposits sitting there almost exclusively for the reason that they can't transport the concentrate out of there, it's too expensive. It's almost entirely a transportation problem, so transportation, almost needless to say, becomes a very large consideration. Both the air aspect, as to what you can do by air, or what you can do by land or sea. Certainly ships are the cheapest and one always looks to see how far one can get something by ship because that is so much cheaper.

I was talking on the way up that one of the things about Nanisivik and Polaris, obviously, the reason they continue to function and so well is they are on the ocean. It's purely transportation. I haven't seen the figures recently but not that long ago it cost half as much to ship the concentrates from Nanisivik to Antwerp, Belgium as it did Pine Point to send them down to Trail. So it depends on the system and obviously ships are much more efficient because they take larger cargos, than railroads are and so on.

So the transportation element, when you are dealing with a feasibility study of a project in the North here, becomes a very big item and one doesn't want to obviously underestimate it. Gold is great as far as getting the product out. You know you can take it out in your briefcase sort of thing, officially of course. But that's one of the major things about gold obviously, because you don't have this problem, whereas certainly Izok must be looking at hundreds of thousands of tons of product each year that they have to ship out and that's a huge problem.

When you are doing your assessment, you actually have to say how you are going to run this place. It's not just a question of how much ore is there and what kind of mine you are going to build, you have to have an employment policy because that will enter into your cost of operation. So you have to choose. Are you going to fly people in and out every two weeks, are you going to have them there longer? If you are going to have them there longer, what quality of accommodation are you going to provide? What's your wage scale going to be? What are your benefits going to be? You have to put together the entire package or you can't tell what your operating costs are going to be. And if you can't tell what your operating costs are going to be, you have no idea if this thing is going to make money or not.

You may not follow this plan exactly, but the consultant who does the feasibility study has to recommend an entire plan of operation so that you know what the costs associated with it are.

And, of course, you can't, at this stage, have a feasibility study without an environmental program, both because there are regulations you have to meet and because the operation should go in first and do a complete baseline survey of the area because, if things do go wrong, you want to know if it was the mine that made it go wrong or whether it was there in the first place. So that there is a considerable cost. Again, the Kiqqavik Project, the largest component of the cost was for the environmental consultant. So at this stage you spend a lot of money determining what the natural environment of the mine is. You want to have all that data before you start construction or start operating.

Social impact. Certainly that's a consideration that should be in a feasibility study. You should have some idea as to what the perception of the local communities to a project is and what sharing there might be in it. And, again, that can affect where you would build infrastructure. Certainly one of the choices for Kiqqavik is to build their dock and their storage right at the Hamlet of Baker Lake, if they want it. If they don't want it, then you better find another good deep water area. But I think one has to look at, particularly when talking about building docks and roads and airports, as to how that's going to fit in to the local area, not just particularly exclusive to the mine.

Geotechnical. You have to have had a geotechnical consultant in. Nanisivik is the classic example of this. Not particularly to our credit, we did a lot of geotechnical work, checking foundations for buildings, foundations for dams, making sure they won't leak and so on. You need to do a lot of work when you are in a permafrost area. There is no doubt about that. It's dangerous. We found that in Nanisivik after three years when our mill started to sink into the ground. It was in solid bedrock but at about 10 to 15 metres below the surface there was an ice lens, and there's enough heat generated in the mill that after three years it starts to melt the ice and your building starts to sink into solid bedrock. So you have to do a lot of geotechnical work to make sure that your buildings will in fact stand up because a mill building has very heavy equipment.

So out of all this assessment that you do and all these concepts that you have, you come up with a capital cost, how much is it going to cost you to build that, and you come up with an operating cost, usually broken down into the cost per ton. This is what you can mine this for, you've seen some numbers here yesterday, $200 an ounce and so on. A lot of that is preliminary feasibility but you really have to know your costs. And when you've done your assessment then, and you're satisfied you've covered all aspects of that particular location, not just that the guy down the road is doing his stuff for $200 an ounce, but you know your particular location could produce for that cost.

The final step is evaluation. Evaluation can be done, as I say, of a big project, a small project, it doesn't matter. What you are really looking at, is this a good investment decision? So you build a financial model which is really just a mathematical equation that you probably use when you buy anything, are you going to get more money out of this thing than you put in. That's the whole name of the game obviously. But the model can be very complex when you are talking about a mining operation because there are a large number of things that play on it. Some are local, some are particular to your mine, some are territorial, some are national and some are international.

Over most of the studies we've done, the two things that are most sensitive is the grade of the ore that is there in the first place and the price of the metal at the other end of the equation. Those things tend to, if you are out 10% on those, you could well be in trouble. If you are out 10% on your operating costs, that's more critical up North here, but generally operating costs, capital costs, this type of thing, they are not as sensitive, will not be as likely to sink the whole project as a mine that thinks they are going in there to mine 8 grams of gold/ton and really after the first year they find they can only get 6 to the mill or something like that. That's the worst part of it. So those two things are the most critical.

So you take what you call a scenario and you say, right, we know everything about this mine and how we are going to run it or how they are going to run it if you are just looking to invest some money, and then you put in the most likely set of circumstances that will occur say over the next ten years. Because it's going to take that long to get your money back. So I think you can appreciate the risk here.

When you set this up, you say, right, what's going to happen to labour rates over the next ten years? Is taxation going to change? Is the Canadian dollar going to stay at some rate? Almost all metals are quoted in some price which is a foreign currency, not in Canadian dollars. I don't know of anything that sells in Canadian dollars, water maybe. Obviously gold is in U.S. dollars. Some of the base metals are quoted in pounds on the London Metal Exchange, this type of thing. So what's going to happen to the exchange rate? That's another risk factor that is automatically built in to your evaluation.

Whether or not it makes any sense, in most cases, it is so risky that what you tend to do is you don't account for inflation. You say that if costs are going to go up, so is the price of your product and you don't really try to guess which is going to go up faster than the other. So you do everything in today's dollars. You do your whole evaluation in today's dollars.

If gold is worth $400 today and you've got an operating cost of $200, those are the numbers you use and you hope that if the price goes up your costs will have gone up or whatever.

Unfortunately, I checked into this for Nanisivik when we did the feasibility study 10 years ago. The 1977 price of zinc was $795/ton U.S. (always). Right now, it's $795/ton. So the price of zinc basically has not moved in the last ten years. It takes little bumps up and down. It's gone up to $1,100, it's gone down to $500 but, by and large, right now the price of zinc is exactly what it was 10 years ago. So the assumption that the price of zinc is going to go up, because your costs go up, is a risky one as is the price of any metal going up.

I checked our labour rates. Roughly where we were paying a tradesman $500/week when we started, we are now paying them $1,000/week. So labour costs have doubled, fuel's gone up 235%, so you can see how risky this is when you are making these projections ahead 10 years as to what's going to happen to different commodities. But you have to use the best information you can.

In the end, after you've done your analysis, you put in the most likely set of circumstances that are going to happen over the next 10 years. The one thing about computers is that once you've built this model you can then change any part of it you want. You say, okay, fine, maybe the price of gold is only going to go up 5% a year and labour is going to go up 10%. What happens? You can run all these different cases to see what effect that will have and whether you will still make money or you won't. And that's somewhat the nice part. If you had to do these all manually, you just don't bother in the end. You accept your first case. But this way you can tell what the project is most sensitive to, whether it's exchange rates, the grade of the ore, whatever.

I think I'm probably well past here. In the end, of course, what you want to know is whether you are going to get your money back and are you going to make money. And particularly for a development corporation, I think it's safe to say the terms of reference under which you operate are not necessarily those under which private enterprise operates. Private enterprise wants a good return, maybe 15% on what they put in. That's what they want to get back. Same type of thing if you put money in the bank, you get 10%, and I'm sure Don would give you 10%.

You've got to figure out if you are going to invest in a high risk operation like this, what is worthwhile - 15%, 20%, what rate do you expect to earn if you are going to put your money into this. But then, on the other hand, as a native corporation, are there any other criteria that say, well, if we invest in this and it creates some opportunities for services, or it creates some employment, would we be quite happy to get 10%, or would we be quite happy to get nothing if it achieves some other purposes? And I know development corporations have different terms of references. Whether your terms are to make money, just like any private enterprise operation for the good of your shareholders, or is it to provide other benefits.

So what return you get on the money you put in depends on what it is you want and that's what ultimately the evaluation will tell you. If you've built in a lot of training facilities and maybe a rotation schedule where people go home every week, some of these things will be very costly and the return will be very low, but if that's the kind of operation one wants to see, then that could be considered worthwhile.

But the main point is there is a lot of risk. At the start the risk is you'll find something or you won't. Once you get into business, the risk is spread over a great number of different aspects over which you have no control, like exchange rates, metal prices, sometimes labour rates, fuel prices (obviously none of us control fuel prices over the last 10 years), so the risk is still there. It's just spread out over a lot more areas and it's not a sure thing that if you've come up with a million tons of ore that has 8 grams per ton of gold, there are people operating under those conditions, but don't assume that it will be profitable for you.

D. NUTTER: Thanks Jim. You didn't manage it in 15 minutes but I used the moderator's prerogative of feeling that it was pretty informative and thought you should continue. Do we have any questions to put to Jim about what he has just discussed? Okay, I think that the document you've put together Jim here as well is pretty valuable and I'm sure people will take this back with them and certainly down the road, if you have any further questions, you can get in touch with Jim. To a point, he would be more than happy to help you and after that, Strathcona Mineral Services is in the business of helping people so.

SPECIAL ASPECTS OF RAISING CAPITAL IN THE NWT

D. Portz
Toronto Dominion Bank

D. NUTTER: Anyway, moving right along, our next speaker is Don Portz. Don is the Manager of the T-D Bank here in Yellowknife and has spent, I'm not sure how many years, but a good number of years in the North, has a lot of familiarity with financing projects and raising capital to finance projects in the North and we'll just move right along here to Don.

D. PORTZ: Thanks very much Dave. It's really a pleasure to be able to have an opportunity to speak to some of the delegates and I'm sure your seminar is becoming very enlightening and informative. Hopefully, my presentation will provide some insight as to what the bank's involvement is in the mining industry and specifically in the Northwest Territories.

Certainly, one of the things I want to point out that, not making any definitive or general policy statement by the bank, because in all cases we like to take a look at each individual project on its own merits and there are exceptions in all and various cases. My comments, I'm going to try to briefly work on the basis of these issues and the types of capital required in the mining industry with its risks and rewards, the bank's role in this market and the reasons behind our relatively conservative approach. Also maybe some of the specific opportunities and problems with the mining industry in the Northwest Territories, as well as consideration of these other aspects for the development corporations and the native groups.

First, investment in the mining industry I think can be summed up in that there are two types; namely, equity and debt. Previous speakers, and I'm sure yesterday there's been a fair discussion on obtaining an equity position within a specific project, and has gone at some very definitive length of what it is and how it may be arrived at.

In the case of the equity the risks are high. However, the potential rewards are also very great, much more than you can expect from debt or what is known as lending, and banks are not in the business of providing equity. At least that was not our intent in the seventies and eighties. In the name of competition, the banks did become very much a part of equity financing, but it certainly was not our original intent. We'll go into that. So any investment, when we go to the equity base, either by the bank or by native groups or anyone else, as Jim alluded to, there are a lot of factors that must be considered before a mine ever comes into production.

One of the things one has to remember, that in any investment in a mine from the exploration stages, or for the prospector stage, all the way through, the only time that there is a benefit is if a mine is produced and profits are generated. There are some indications that an exploration project, there is only one out of 50 that ever comes to fruition and actually generates a product. Therefore any investment in that field has its risk, however, it it recognized that there are some very substantial rewards.

The debt capital or loaning investment is generally a well-defined sort of situation, generating a specific return, usually an interest rate, and it's usually supported by cash flow projections, security and many other things and although the potential for a large return on this investment is diminished, so also is the risk.

The banks are involved in this aspect, but it is, again, on a very well-defined basis. It is well known that the banks are quite often highly criticized for not taking a more active role in many areas of financing, and particularly risk capital financing, however, it's got to be remembered that we have a responsibility to not only our shareholders but also our depositors. It is the depositor's money that is used to fund these various projects. Needless to say, if one of the projects was to fail and our debts were not repaid, it must come from those profits that we generate. Our return on these investments does not allow us the luxury of any major risk.

And in that light, and in speaking on behalf of my bank and probably most of the other lenders as well, the Toronto Dominion Bank historically does not take exploration risks. We feel that the orebody must be located, delineated with equity capital. This is the high risk that we are not about to, or able to take on. We usually become involved once a feasibility study has been completed and as Jim so very carefully explained, the very extensive need for all of the profitability studies and the tremendous number of risks, we only come in after that when we are determined that it will be a go. This does not mean that it's still involved.

We try to mitigate the building and operating risk by arranging for a completion guarantee. We want to see that we have a guarantee out that the mine actually will be completed and go into production. This guarantee ensure the lenders that the mine will be taken to a stage where it produces a specifified product within certain costs over a sustained period of time. Should the mine not be completed, the guarantor would be responsible for repaying the debt.

The marketing risk involves price and volume sales considerations, that in today's market conditions of oversupply of several commodities, represents a substantial risk indeed. Price assumptions made in the past several years have not materialized and the level of debt on many mines and mining companies is causing severe financial problems because earnings and cash flow have fallen dramatically. Again, Jim, we seem to be on the same level.

Quite frankly, we have lost confidence in anybody's ability to forecast base metal prices correctly and, in most cases, are not prepared to assume this risk. The type of things that mitigate price risks are very large; high grade reserves that can be mined at very low costs where mine life exceeds by several times the proposed term of the loan. Low-cost, long life mines provide a cushion for the operator to go through the cycles of low prices.

These are some of the criteria and the concerns that the banks and lending institutions have today. We need to know that the mine will sustain itself in bad times as well as the good. Lenders in the mining industry in the seventies and early eighties, were forced by competitive factors to start taking equity type risks for debt returns, and this was because the industry was misreading the projected market price, and I suspect that the banks misread it too, for the metals and minerals and this error has resulted in some lenders becoming virtual owners of mining projects that are not viable at the present time.

We look at three of the major risks that must be assessed are: the owner's ability to locate reserves and produce a reliable grade; the owner's ability to build and operate the mine at the lowest possible cost; and third, the owner's ability to market the product in volume and at prices sufficient to create cash flow that will service that debt and repay their loans.

Again, I seem to be reiterating a fair amount of what is suggested by Jim just a few minutes ago. In the Northwest Territories, the mining sector brings both opportunities and problems which may not be a prevalent in the other parts of Southern Canada.

Opportunities - we are a large and vast land in which we have only scratched the surface, so to speak, of the potential for mineral development in the North. I personally see that the mining industry will probably be the No. 1 industry and producer of wealth in the Northwest Territories for many years to come.

Over the long term, minerals, both base and precious metals, will be required and they will be required in greater numbers and the opportunities are there. However, along with our large and relatively unpopulated areas comes the problem of transportation, the cost of recovery of that mineral and with that cost, increases the cost of per ounce or per ton, and reduces the potential profitability of a specific project.

Also infrastructures, climate conditions, distance to market. These are all going to be and will be major criterias now and in the future.

How may the foregoing impact on your various associations, councils, development corporations? Participation in the mining sectors will therefore be in one of the two areas; namely the equity investment, or the debt investment. In the case of equity investment, this may start even at the exploration stage and with its large and inherent risk, remembering that again recovery of any investment is entirely dependent upon the successful development and profitable operation of a mine, however, the rewards on that successful venture may well be very, very significant.

Investment in the production stage of the mine or development of support services may not generate those potential profits that the equity investment may appear to provide. But it does provide for greater protection of the capital.

From the foregoing it becomes fairly obvious that banks do not provide risk capital. Our mandate is to protect the shareholders' investments and the bank's depositors and to generate a reasonable return on that investment. Any major investments in that field, losses, would well jeopardize the bank's earnings and continuation of operation.

In like manner, I suggest that your councils or development corporations have a mandate to protect your peoples' investments with the maximum return at the lowest possible risk. This is not to suggest that equity investment should not be undertaken, but rather that it be tempered in recognition of its risk. I feel that the mining industry in the N.W.T. has a good future and that it will remain the cornerstone of the private sector, both in production of wealth and the provision of employment. Accordingly, involvement in all levels of this sector will go a long ways to meeting the objectives of your people.

Areas for infrastructure, support services, are not to be considered outside the scope of being in the mining industry. That concludes my comments and if anyone has some questions, I will be happy to try to answer them. Thank you.

Discussion:

D. NUTTER: Thanks Don. Do we have any particular questions people want to raise at this time? Gilles.

G. PATENAUDE: Don, when you are examining the request for funding and if, for example, a corporation would wish to develop a company of some kind that would provide support to the mining industry, some service business of some kind, I presume that the rules for lending monies would be fairly similar. What are the constraints on that one?

D. PORTZ: Okay. In the case of the service industries, the normal lending criterias for that particular industry will fall in line in the cases of maybe a specific mining project and the support of it. Naturally, we will look to that mine and to the feasibility of that mine going into production as being one of the criterias. Needless to say, if the mine does not go ahead, neither will that service industry. However, as we see the service as part and parcel of it, and our wide range of financing, be if from the mortgage level to the operating lines of credit, we are certainly here and available and that's part of our mandate to provide.

May I make one comment. We often, every quarter the bank's profits are announced and they appear to be very large sums of money. Say why doesn't the bank do more for an area or why are they taking all this money and piling it up in the corner of a vault and we are not being maybe as responsive. In absolute dollars they do appear to be quite large. On the other hand, at the end of the first quarter of this current fiscal year, the chartered banks in Canada generating a return on assets of approximately 50¢ on every $100. That's one half of one percent which is not a very substantial amount and those assets, and when we talk about assets, those are our loans primarily, or the vast majority are, and so maybe if one stops to consider that feature it highlights the point that the banks are not in a position to take any substantial risk.

In Alberta, the two banks, the C.C.B. and the Northlands tooks a somewhat greater risk and they are no longer in business, at a considerable cost to the Canadian people.

COMMENT: On that 50¢ on the $100, is that before or after Brazil quit paying your interest rates?

D. PORTZ: There are allowances and it even gets into the mining industry. As far as Brazil, the Federal Government has given sort of a directive to the Canadian banks to increase their reserves on foreign debt and there's no doubt that this may or may not be a problem in the future. Most of the Canadian chartered banks have already reached levels approximating what the Government has suggested is prudent lending.

No one will know what is going to happen on the international scene. It could conceivably restrict development. The banks have been faced with this over the last few years, both in the oil and gas industry, real estate, Western Canada as a whole, as I mentioned we probably have a fairly good interest in some mines today that we would quite happily sell.

D. SANDERCOCK: Don Sandercock here, Don. It sounds like the banking business is a little riskier than the mining business right now.

D. PORTZ: I'm beginning to think so myself. However, in the Canadian banking system, we have generally followed a fairly conservative approach and we're satisfied we're going to be around for a long time.

COMMENT: I have a couple of questions for you, Don. One is, how much money does the bank have invested in mining in the Northwest Territories right now, in terms of percentage of the debt, you know a guess at that, and how does that change in the Northwest Territories as compared to places like Ontario? I'm sure that your investment in mining in Ontario is much higher, the banks as a group.

D. PORTZ: Specific figures I don't have. Our bank in particular, all mining ventures and financing is done in our head office by our Mining Division and controlled and so, therefore, much of the lending is at various stages throughout Canada. There would be some financing being done in Edmonton to Vancouver to Toronto and the other thing.

On behalf of the Toronto Dominion bank, our investment in mining in the North is very extensive. I would

tend to think probably we are the leaders. We have relationships with such people as Pine Point and Polaris and Nanisivik and Cantung and to lesser degrees, with Echo Bay and Terra Mines and Cullaton Lake in the past. I don't believe that the banks are any more cautious about the Northest Territories than anywhere else.

Outside of the fact that, again, we take a look at the cost of operation versus the potential revenue that we talking, that cost per ton and that delivery cost per ton versus an allowance for the potential revenue we're committed to the North and there will be financing available. Does that help to answer your question?

ANSWER: Partially.

D. PORTZ: Sorry I can't give you dollars or numbers at all. The only other thing I may mention, I believe that the financing, the vast, vast majority of financing of mines is done in Canada as opposed to foreign.

D. NUTTER: Thanks very much, Don. Perhaps we'll break now. A little short of what's budgeted but if we can get together again in 10 minutes, at 10:30.

BUSINESS OPPORTUNITIES - GOVERNMENT PERSPECTIVE

T. Foster
Economic Development and Tourism, GNWT

D. NUTTER: We are going to move into a new area now, talking about opportunities; both business opportunities and employment opportunities, and I think this is really getting into an area that's of particular interest to most of the people here. It's what we are here for to learn how one does get more involved and what the opportunities are to become more involved.

Our first speaker in this section is going to be Terry Foster. Terry is with the Territorial Government, Department of Economic Development and Tourism, he's in the Business Development Group, and has had quite a bit of experience both with the mining industry in the past number of years as well as working with the small business sector across the Territories. So Terry, if you'd like to join us up here.

T. FOSTER: When you take a look at the mining industry in the Northwest Territories, in actual fact there is a big marketplace. We have eight producing mines and those eight producing mines generate about 17% of all goods and services produced each year in the Northwest Territories. So if you take government out of the equation, the mining industry is our biggest industry and when you take a look at the money they spend in order to produce their product, it's a big marketplace.

A study was recently commissioned by the Territorial Government and done by the Chamber of Mines. In 1985, the mining industry in the N.W.T. purchased $259 million worth of goods and services. That's a lot of money, and out of that $259 million, about 13.5% was spent up here. In other words, there is a difference of about $200 million, and that's a fair size marketplace.

Now, in the last few years, that's changed. Industry expenditures have gone down overall, but the amount of money they have spent in the N.W.T. has gone up. So that's a good sign for business here. But basically the numbers tell me that there is a big marketplace out there. And I guess... I'd like to interject with a little story at this point and it's been told a number of times by the owner of Bata Shoes when he is asked why his company is so successful.

And he tells the story about two British shoe salesmen going to Africa during the colonial period in the early part of the century. The first salesman went from London to Africa and sent a telegram back to his head office and he said, "Coming home earlier than expected. There's no market here, nobody wears shoes." The second salesman got to Africa and he looked around and sent a telegram home to his home offices and he said "I'm staying down here longer. There is a tremendous market. Nobody here wears shoes". In essence, at that time, Africa didn't have a lot of big cities and it was a rural economy, a small economy and the marketplace was there. And if you look at Africa today, they have tremendously big cities and you don't run around cities in bare feet.

So the market is there for aggressive businessmen or businesswomen who are competitive and will get out there. But you have to remember that a mining company is in business for the same reason anyone else is, they want to make money for their owners. So they have to watch that bottom line, and you have to remember that. There's generally more than one supplier for any given product and there ain't no free lunch I'm afraid, and the mining company is going to be looking for the best deal it can get.

A purchasing agent for a company is also going to want to be damn sure that a business can deliver the product and can deliver it in the condition that it can be used. If they buy a piece of equipment, it's no good to them unless it's on the site and it's in a condition that it can get the job done. So when you think about a mining company, don't think about a big company with a lot of money, think about a company that's in business for the same reason that you are in business and that's to make a buck.

I guess, in summary then, the marketplace, it's there and there are potential opportunities. They just have to be found.

The Territorial Government's position or view when it comes to small business and mining is that we would like to see our businesses get access to opportunities. We certainly can't guarantee that a mining company is going to spend its money here, and I don't think a mining company can tell you that they will buy from you until they see your numbers and see the quality of your service and they see the quality of the product that you are delivering.

On the other hand, we do expect the mining companies to do business here. We expect them to purchase goods and services from Northern businesses where price, delivery, capability and quality meet their needs. But life isn't quite that simple I'm afraid when you go back to looking at the bottom line.

I guess the marketplace has to be developed if you take a look at the numbers, going back to the numbers, if only 13.5% of the money spent on goods and services is spent here. And there is a lot of development to do in the marketplace and it's not going to happen overnight, and it's going to take co-operation between both the mining industry and between the sellers of goods and services. And the government, in actual fact, probably has a very small role to play in that process.

To do business, it takes two people; it takes a buyer and a seller. The buyer has to know what's available locally, the seller has to know what the buyer wants. How that happens I guess is up to the individuals involved. But let's take a look for a minute at what a mining company can do to develop the marketplace.

A purchasing agent, for example, knows what goods and services he is going to require and when he is going to require them. If he can get that information out to the public or out to the business community early enough, or as early as possible, then the chances are better that a local firm will bid on it. We would like to see companies package their bids in such a way that Northern firms are actually encouraged for the work or to bid to supply the product and certainly not discouraged.

I think this is more related to construction projects and things like that where if you can break a large project down into a number of smaller contracts, there are more companies that can bid on them. But if you have a $5 million job and you put it out as a single package, then the number of construction companies that can bid on it is very limited. In many cases, it's not practical to break contracts down, it just can't be done. In other cases, it can be. We would like to see mining companies make more of an effort to inform the business community of their bidding procedures, who does the buying in the different companies, where they are located, and so on.

Buyers for companies should become more familiar with the supply sector. In actual fact, I suspect the buyers for our mines are fairly familiar with the suppliers, in town anyway. I guess we feel to some extent that the mining companies have a responsibility of making sure local suppliers are on their bid lists and I think I'll dwell on bid lists a little later on, and they are critical. If the mining company doesn't know that a business exists or that it has a specific good to sell them or a specific service to offer them, it's not likely that they are going to give you a call to come and do some work for them or provide some goods for them.

Where it's practical, we'd like to see companies hold pre-bid conferences. Now this isn't always practical on a small contract or on a small order. It would be senseless. But on large orders and large contracts, pre-bid conferences will ensure that the bidders have the information they need and they all have the same information in order to put a reasonable bid together.

We would like to see companies evaluate bids on best value, not necessarily lowest price, but best value. The lowest bid may not necessarily by the best. And I'm sure that anybody who has been in a purchasing position has had experiences where they've got nice low prices bid and in actual fact the contract has fallen apart because the bidder was too low and either went broke before the project was done or just couldn't deliver the goods and services.

We would like to see the companies communicate with unsuccessful bidders and explain why they didn't get the contract. If a company is consistently bidding and bidding too high, why are they doing it. It's not likely they are going to bid lower next time around if they don't know where the problems are with their responses to tender calls.

I guess we would like to see the buyers in the various mines make more of an effort to develop the overall marketplace and I think that Leon Harder is here somewhere. This is the type of thing that we would like to see. I think business organizations, when they have meetings or when they have annual dinners and so on, look for a star performer who can talk to them, but in actual fact can't give them the nuts and bolts of what they need to do business. I've found that most purchasing agents in any kind of a company in the government are more than pleased to meet with business groups and so on to talk about contracting and talk about purchasing.

I guess, as I said earlier, the equation is two-sided. Let's take a look at what the supplier side can do. In business, in actual fact, it's the seller of the good and service that has to get off his butt and get out and sell himself or sell his products. You know, you're the guy in business, you're the guy with the goods to sell, you're the guy with the services to sell, it's up to you to do it. I don't think anybody else is going to do it for you.

Existing operations tend to have fairly established suppliers and your job is to bump that other supplier out. You know, looking at it from the perspective of purchasing agent, why should he switch suppliers if he is already getting good service, so you have to push the other guy out of the way and get your own company in its place. You have to know your company's strengths and weaknesses. If you don't, you're going to wind up bidding on contracts that you can't deliver on.

You have to research the markets. You have to determine what market you can compete in, what market you want to compete in five years down the line. You have to plan how you are going to get there. You can't do that unless you really look at the marketplace and look at your own company and it's strengths and weaknesses. But more important, you have to research the actual marketplace. You have to go and sit down with the purchasing agent. Find out what he buys, when he buys it, how much of it he buys. You have to know what his quality requirements are. You have to know what his bidding procedures are. You've got to find out how that company works, and some companies work differently than others. I think basically they all work the same, but there are different procedures. They'll have different ways of evaluating bids and so on. So you have to look at that.

You also have to go and talk to guys like Don Portz who snuck out and who says they don't take risks, to find out the availability of financing, if you can't finance the deal totally on your own. You have to get money from elsewhere. And probably financing is one of the most critical things a business has to look at. But that's all part of researching the marketplace. You have to make contacts with purchasing agents. Talk to the purchasing agents, whether it be socially or sitting in his office. At the same time, you can't waste his time and you can't waste your own time. You have to be aggressive, you have to make contacts, you have to have your foot in the door I guess is what it basically is. You have to get on bid lists.

Now if you take a look at the two mines in town, very rarely do you see a public tender posted. But they do have bid lists and they do go to more than one supplier to get prices. But if you are not on that list, you don't get called and if you don't get called, then you have no access to the marketplace and obviously you don't have a hope in hell of selling anything. If you do get on the bid list and you do get tender calls, you have to read them carefully so that you can identify exactly what they want.

Now, at the same time, you can be innovative. If the company will give you specs., you can look at those specs. and if you can find a better, or cheaper way to do it, put it into your bid. But explain your innovation. You know if it doesn't match the specs. I think that, particularly if you can provide the same quality of service or good at a lower price, the mining company will gladly purchase from you. But if they can't understand what you are trying to do in your bid document, then nine chances out of ten, your bid will be pushed aside for something more conventional. Submit your bids on time.

Now I'm not sure, maybe Leon can clarify it, but I'm not sure how strict the mining companies are in terms of getting the bids in on time, but to give you an example. Defence Construction Canada, which is a Crown corporation, they open their bids at 3 o'clock on Friday afternoons I believe. If you bid comes in at 3:05, it doesn't go in. If it comes in at 3:01 it doesn't get in, and they open them at 3:00 and that's it.

Follow up on your bids. If you put in a bid and you haven't heard anything, follow it up. If you put in a bid and don't get the work, follow it up. Find out why you didn't get it. Find out where you went wrong and if the purchasing agent says, well, it was too much money, figure out why it was too much money because if you go after it again and you put in the same type of bid the same thing will happen unless your competitor dies or goes out of business.

Look at more than one company to supply. We have eight mines in the Northwest Territories. Seven of them, in one way or another, could be totally serviced or partially serviced by Yellowknife. Nanisivik, it's virtually impossible. Polaris, you could provide some goods and services out of Yellowknife. But there are eight mines here in the Territory. If you want to sell a product, if you can sell the same product to eight mines, you can bring down your price on volume. So don't just look at one mine, look at them all. Now it may mean, in the case of Echo Bay, going to Edmonton, I don't know, or do you have a purchasing agent here Louise? You don't. Okay, so maybe you have to go to Edmonton, but that's the cost of doing business.

Identify and analyze your competition. Who are you competing against? How do they sell their, you know, what kind of a deal do they offer? Do they have any standard sales practises? Do they have wine and cheeses for purchasing agents or do they just wander in? Find out who you are competing against, what their product is like and so on. The more you know about your competition, the easier it will be for you to beat them.

Prepare realistic bids. Don't try and retire on one contract. And one of the major problems that we've had up here has been with projects where expensive equipment is required. If you have to buy a D-7 Cat to do a two-year contract and you have to write that Cat off over two years, I think your bid is probably going to be a little high. So you have to put in realistic bids.

And I guess the final two points; one, be sure you can supply the product and you can supply it on time. And that's critical. As I said earlier, a piece of equipment that's required, if it's not on the site and it's not working, it's no good. And if it means that a mine or a part of a mine has to shut down, your name's mud when it comes to being a supplier. Don't expect special treatment. It's a dog eat dog world. Mining companies don't make a lot of money. They are watching their bottom line just like you are. Mining companies have been known to give breaks to people, but you shouldn't expect it.

And I guess the third corner of the triangle is the government. As I say the government is a minor actor in many ways, and in most ways, with respect to the development of the supply sector. We can facilitate a number of things. We can provide some financing and I think Allan Vaughan will talk to that point this afternoon. For example, the Department has a loan program. We are a lender of last resort, so if Don Portz won't lend you the money then you have to come and check with us. But, by and large, our role is small. We tend not to go and set up businesses and so on. We provide individuals with assistance and advice and if we don't have it on hand we can buy it and lend it to you. But other than that, there is not much we can do.

We've recently met with the Chamber of Mines and agreed to do a number of things jointly which will help the small business sector. We would like, for example, to produce an industry service guide. So if you are providing a service or some goods to the mining industry, you can get listed in a service guide and then the mines will know that you exist. So government can help that way. We would like to see some trade shows that would focus on the industry and industry suppliers. It's one of the easiest and best means to get buyers and sellers of goods and services together.

We would like to see, and the Chamber does it now, a survey of industry intentions and, if possible, get that information out to the business industry because if you know well in advance that something will likely happen, you can do some planning and you can do some talking, you can make some phonecalls, and it gives you that much more time to get a bid in.

I guess the other thing that we would like to establish is some kind of a mechanism where on an ongoing basis, people who buy goods and services can get together with the people who sell them. And the example I guess that I'm thinking of is the Canadian Market Opportunities Program in the oil and gas industry, where representatives of supplier organizations meet on a somewhat regular basis, three-four times a year, with purchasing agents, purchasing staff, from oil companies.

And it's been a very inexpensive approach to looking at the problems and the results have been fantastic, in that a guide has been produced for example, and it's basically on how to do business with the oil industry. It's provided an exchange of information between buyers and sellers. What problems do the sellers have in dealing with oil companies and efforts have been made to sort those problems out.

And the opposite is true as well. What problems have oil companies had with the sellers and how can these problems be ironed out. It's worked quite well.

With the downturn in the oil industry, the group is now focussing on Canadian content, how to increase the Canadian content. So a lot of good practical, useful information and activity has come out of it. I think if I recall correctly, it cost each participant, initially I think it was $500 a year to participate, and it was too much money. We had to lower it down to $200 I think because there was extra money floating around. So it's a very inexpensive way of doing things and a lot of good results can come from it.

I guess to conclude, the marketplace is there. I have never known anybody in the mining industry who had an aversion to buying in the North, but again, they watch their bottom line and you know you have to be competitive. You have to be competitive in terms of price, quality and deliverability. The development of the marketplace is a joint effort. The mining industry can't develop the marketplace by itself. The supply sector can't develop it by itself. People have to get together and work out problems, work out what's required, and then go from there and I'll leave it at that.

BUSINESS OPPORTUNITIES - INDUSTRY PERSPECTIVE

L. Harder
Nerco Con Mine Ltd.

D. NUTTER: Thanks Terry. I think what we'll do is move right on and get Leon up here as well. You're right, Leon Harder is hiding in the back of the room. Actually, if you'd stay here, we'll get a second chair up and I know Leon is going to give us industry perspective on this same issue and we'll both respond I think to some of the things that you've said as well as amplify some of the points you've made already, so I'll turn it over to Leon.

L. HARDER: Thanks Dave. Some of what I have to say will be repetitive to Terry's comments but hopefully there will be points that are worth confirming rather than just repeating. While I was listening to him speak, I was rattling through the papers on this session trying to find his biography to see at what mine he had spent some time purchasing. Certainly he seems to have a pretty solid feel for what we are looking for from the marketplace and I was pleasantly surprised to hear that kind of comment coming from somebody in government service. And that's not facetious by the way, I'm serious about that.

I was pleased to be invited here by the organizers of this seminar to speak on business opportunities in the industry that may be available to people who have some mining activity in their area. It's easy when planning or running a mine to put too little emphasis on material planning and forecasting and procurement. We in the industry, to our detriment sometimes, do not always do a good job of informing, educating and developing suppliers.

This aspect of a business relationship may be as important, or perhaps even more important, than the more traditional sales and service approach generally taken by the vendors. It's my intent to take a small step forward on that this morning.

I'd like to begin by touching on some major commodity areas that will go hand in hand with mining development and operation. Transportation, reliable and economical, is critical. Any developer or operator would be willing to consider proposals that would improve his transportation methods and costs. The logistics and expense to supply the Con Mine where I work are complicated enough, and we are on the road system, and have somewhat reliable scheduled air service. Imagine the difficulties and cost incurred to operate Echo Bay's Lupin Mine or to service remote diamond drill sites without access to a corporate Boeing 727.

Live in mines and camps require personnel buildings and catering services, the buildings may be constructed or mobile, the latter may be done in house or contracted. There will be a varied requirement for purchased or leased heavy equipment, both traditional surface and specialized mining types. Smaller items than those needed on an as-required basis may offer a business opportunity to allow an expeditor service to develop.

An operating mine will have consistent and ongoing requirements for fuels, drill bits and steel, chemicals, lumber, electrical apparatus, repair parts, ground support materials and large general mine supplies. It will also need an array of smaller, less costly items, including safety supplies, clothing, steel, hardware, fittings and pipe. At Con Mine our stores inventory alone includes 9,000 line items in 60 classes worth $3 million. In addition, we purchase daily, specialty required items. Rather than spend the morning listing our needs, it is suffice to say that a mine offers a myriad of supply opportunities.

How to become aware of what they are and get involved in supplying them, forms the basis of the rest of my talk.

Allerdale Granger, when he wrote his book Woodsmen of the West, had this to say about buying and selling. "Buy from them that is got to sell, and sell to them that is obliged to buy, and cinch them all good and hard and that's the secret there is to business". That simplistic approach to doing business may well have worked when that phrase was written in 1908. Since then, however, I believe we've evolved to a point where communication, understanding, fair play and mutual benefit are the most important ingredients in forming and maintaining a lasting business relationship.

The following comments can be roughly categorized as do's and don'ts toward doing business with the mining industry. Do make an effort to become current with mining developments and trends. Find out to the degree possible through the media, the grapevine, government agencies and the Chamber of Mines who is doing what and where it is happening. Do put forward an effort to become knowledgeable of and meet with the individuals who make buying decisions in mining organizations. Don't limit yourself purchasing people, but include engineers, operators and senior management.

As a part of this process, find out what mandate and authority these individuals have regarding purchasing areas. Become familiar with procedures concerning calling of quotations, sales visits, flow of communications between the vendor and those involved at the mine site. Use these people to find out what their needs are and from where they are presently being fulfilled.

Information concerning specifications and consumptions is available. Ask for it and request to be included on bid lists for product areas that interest you. When you have good information concerning a product requirement, consider establishing an inventory that we can draw from on immediate notice. I mentioned earlier that we sometimes miss the planning boat. Our industry is full of ups and downs. We look favourably on somebody who bales us out of a jamb.

It's a fact of life that the Southern manufacturing base will remain the original supply source. Establish contacts with those involved in manufacturing for mining. Present yourself as a viable, workable manufacturer's representative or distributor close to and knowledgeable of the Northern mining market. Find out what aspects of service are important to us as customers and do your best to meet them. Here are a few for starters:

- We must have quality goods and services supplied to stated specifications.

- We must have timely deliveries, proper documentation, a fair price and solid after sale product support.

Conversely, tell us what's important to you. I'd guess that these would include a fair margin of profit, reasonable lead times, proper information, prompt payment, and, of course, the initial opportunity to get involved in the supply process. If our methods, requirements or procedures are causing you problems or are restrictive, tell us about it. Don't concern yourself with the presumption that small business cannot change set ways of the industry. We do not want to be perceived as the elephant dancing among the chickens.

I don't think that any of the terms I've mentioned here are unreasonable, either from a buyer or vendor viewpoint. They just make good business sense. However, they don't automatically happen. It takes commitment and energy to make a relationship work. This may sound like a marriage and a comparison is not altogether inappropriate, although we must draw the line short of the ultimate intimacy.

Recognize that you may have to build some flexibility into your organization. I gave a talk similar to this to a group of Yellowknife businessmen in September. I pointed out that for the most part it appears that Yellowknife business has developed and stylized itself to service the retail and government market. Industry has some needs that are different but adjusting to them can be rewarding. Some companies have done a credible job appealing to all markets and are most likely the better for it.

Earlier I made reference to the importance of establishing contact with the right people. Once these contacts are made they need to be used to remain effective. Historically, in the business world, the successful supplier is the one who is visible, imaginative and innovative. He will be required to maintain a presence and be prepared to spend some time, effort and money on sales visits to mine sites and head offices. If you are well prepared and serious about doing business, it's very likely this investment will pay off.

Finally, when you are favoured with business, fulfill your end of the bargain by providing the good and service on time at the agreed price. This may sound like stating the obvious but it is not infrequent that orders or contracts are simply not fulfilled until the vendor is proded by the buyer, if at all. Nothing destroys a vendor/buyer relationship faster. Keep in mind that as buyers we are providing a service to user groups in our own organization. If you don't perform, we look bad and nobody likes that.

On the other side of the ledger, here are some don'ts.

Don't assume that you are unable to compete with Southern or established sources. Although this may be the case in specific commodity or equipment areas, it is worth your time to review all situations to find out how you might adjust your service or commodity range to meet our requirements.

Don't assume that we will continue in our same old ways, buying the same products from the same places. We too are looking for an edge. As you become aware of our systems and needs, you may well see ways to improve them. We are willing to change if shown a better way.

Don't maintain the status quo in your business methods if a reasonable adjustment and approach gives you potential worthwhile gain. Consider the industry an opportunity for growth, not an area that is unaccessible or uninteresting to you.

Don't rely on preference or allowance because you are a Northern supplier. We have no firm policy in this regard and examine cases on their own merit. Although we recognize the value of a well developed supply infrastructure close at hand, we too are in business for profit and will lean in the direction that best favours that position.

Don't take advantage if you find yourself with something we need badly in a hurry. Even though we are a large consumer with some of the bureaucratic trimmings, these things have a way of being committed to memory and later coming to light.

Finally, don't assume that business with us means an undue wait for payment. In fact, at Con, we have a policy and procedure to favour local invoices in the payment process. We can and will pay promptly on receipt of invoices for properly completed transactions. Find out what our documentation requirements are and make an effort to meet them. If they are correct the process is expedited to everybody's benefit.

Earlier I made mention of some of the types of services and products that are required to operate a mine. It may be appropriate to elaborate on our present sources. I'd like to emphasize this information is slanted towards the situation at Con and both similarities and differences will apply to other operations. In general, we procure our goods and services from four main primary geographical areas.

Small volume general goods and services available from local sources. Large volume goods and supplies from the industrial support base in Alberta. Specific mining equipment and operating mining materials from the mine support bases from Ontario and British Columbia. And some specific chemicals, parts or specialized equipment that we are forced to go overseas or to the United States for.

Generally we attempt to obtain competitive pricing for expenditures which will exceed $5,000 per transaction. This option may be ruled out or waived depending on time restrictions or the availability from only one source. It is our policy to review annually commodity types with expenditures over $100,000 per year. Invitations to supply are solicited from firms who are familiar to us or have made overtures to be included. Outside of very few who have disqualified themselves on the basis of past non-performance, we do not exclude any reasonable supply source from this tendering process.

Some of the commodity areas handled in this manner are transportation, fuels, ground support materials, drill bits, steel, chemicals and general mine supplies. Lumber, electrical apparatus, mine rail - these are supply requirements that would need a large start-up investment and subsequent volume to be viable. They may not be practical for consideration as a Northern business.

There remains, however, a large variety of smaller volume but still attractive requirements. I spoke recently to a career mining person presently involved in a small exploration and operation project out of Yellowknife. He said he has seen in other mining areas a successful business venture in the mine supply orientated store where specialized mining, but fast moving items, are available off the shelf. I won't quote figures, but we have ongoing requirements in the form of general hardware, paints, safety supply, pipe, steel, electrical fittings, and so on. If they are areas that interest you, then we are interested in talking to you about them. Keep in mind that your competition is a Southern supplier and we are profit orientated and motivated. We are prepared to pay a reasonable up-front premium for local availability assuming that benefits are reflected in savings from prompt delivery, less administration and decreased inventory.

It is likely that to do business with us, you will have to adjust your present philosophy and methods, sharpen your pencils, narrow your margins. We think you will find it worth the effort.

As you are aware, Yellowknife has it roots in mining. I mentioned earlier that I felt the business community here has shifted, for whatever reason, to satisfy the retail and government market. There have been, however, some recent and encouraging developments in the area of local mine supply. We now purchase our explosives locally. Similarly, we can have an electric motor rewound, have a building insulated and satisfy a good deal of our general janitorial and safety needs and buy some parts for underground equipment. I'm not saying that these services were not available in the past, but it is my opinion that certain businesses have taken on a higher profile, made themselves known, taken an interest in us, and met the criteria that we need to do business. They, in turn, are benefitting from our willingness to support local enterprise when proper conditions prevail.

I believe I speak for the whole of the supply sector in the mining industry by saying we are encouraged by the opportunity to address this forum. I hope my comments may serve as a small link between the business identities that you represent and the opportunities that may be presented by the growing Northern mining industry. Thanks very much.

Discussion:

D. NUTTER: Thanks very much Leon and Terry. I think a lot of food for thought there. Any questions that people would like to direct to either Terry or Leon on what they have just been talking about. Yes Bob.

B. SHANK: Yes, in listening to both Leon and Terry, a thought struck me that there may be room here for an intermediary. This would follow on to Terry's last point that he made actually. An intermediary perhaps like a broker, who would have the knowledge and contacts of what the mines require, but also would have the knowledge, contacts, of local suppliers and could act as the go-between. Terry was mentioning more I think of a meeting or an association perhaps that gets together occasionally to bring these two groups together, but you know, I'm quite impressed by Bill Padgham's little article here about the exploration preview.

Sure there are the eight operating mines in the Territories, but there are a lot of smaller operations too and there are a lot of smaller potential suppliers. And so, is there room in here for a broker or an intermediary who could, on his own, not a government employee, but a guy whose profit oriented himself acting to bring the two together?

L. HARDER: That's a legitimate point Bob. At the risk of sounding negative, it is another step in the process. You did mention that whoever this might be they'd have to make a living, so obviously there are some costs attached. To work, this thing is going to have to add some value to the system, or the lack of one that's now working. It could be something workable if, well, if everyone else was pulling their weight as well. This guy is only going to be as good as the people who he both is working to support and who he is working with to provide the service. But I guess it's a worthwhile consideration and that's why we're here to throw these things out and see whether or not we might come up with something that works.

T. FOSTER: I think Bob, I can be both negative and positive on that. On the negative side, I firmly believe that the supplier is in the best position to sell his own product or his own service and I believe an employee is in the best position to sell themselves. So I think from that perspective more can be gained by getting the buyers and the sellers together, whether it be in the buyer's office, the seller's shop, a gathering like this, but I think the two key people have to talk.

On the positive side, I think there could be somewhat a role like that in the sense, and I'll use the example of grinding balls and grinding rods. Every mine uses them. I don't know whether they all the use the same size, kind, or what. But perhaps there would be room for a jobber there if they could buy for four mines and get a better price on volume. But, again, you'd have to look at it and look at the economics of it and the service and so on. But I'm convinced that the buyers and the sellers have to get together because if they don't, as Leon said, you've got one more link in the chain. The middleman has to be damn reliable and so on. You know, it's an interesting thought and it would add to the cost. I'm not so sure that it would work.

B. SHANK: Terry, it's not a full time intermediary or broker position but there is initiative going on right now between your department and Energy Mines & Resources Secretariat and the Chamber of Mines on this small business study and I look at that in a sense as a one-time broker's role. Could you perhaps give a little detail on that?

T. FOSTER: It's not my study, so I don't feel too comfortable on it. I know what I want to see out of it and that's basically what's being bought down South. You know, almost a check list and then that in essence will give the business community here something to look at and target it. But I'm not that familiar with the details of the study to be able to comment on it.

D. NUTTER: Perhaps I'll just follow through on it a little bit to get a little further amplification on this study. It is a study which is being commissioned has not been contracted out yet, but it is being commissioned to look at small business opportunities, what level of business contact there is between the small business community in the North and the mining industry, what purchases are made now and not just purchases of goods, but also services, and where there may be gaps, why the mining industry is not being fully served by the North, if there are areas where it could be better served by Northern businesses, what the constraints are for the enhanced level of business contact between the two groups and how these constraints can be overcome.

So I think that this, as I say, to my mind, I've never thought of it as such, but when Bob raised the question about a broker between the buyers and sellers I think that this study and the report that comes out of this study will serve as essentially a one-time broker between the two and if the study is, if we get our money's worth out of the study and get what we all anticipate to get out of it, it can prove to be a valuable document for both groups, but particularly for the business community and that study should be started by the end of this month and will be completed in about four months.

And the successful group that carries out the study will be then contacting not just the mining community, but also the business community in the North and if there are people here I can guarantee that the mining industry is going to be contacted. They are a little easier to identify. If there are people here in the room who are on the supplier side or potential supplier side who would also like to have input into the study, they can certainly contact our offices, the Chamber, or make contact with the Project Manager on this, a fellow named Bernie Scott, who is seconded right now to the Energy Mines & Resources Secretariat of the Territorial Government.

If you let us know that you've got something that you want to see in the report, we'll make sure that the consultant does make contact with you.

G. SMITH: It's Gordon Smith from Aklavik. I wonder if either one of the gentlemen or anyone else in the room could recommend a publication or a magazine that is presently available concerning the technology available in relationship to equipment that is being supplied to the mining industry.

Secondly, the study that is going on; once it is completed, can the delegates receive a copy so that we could identify the items that are being purchased in the South so it might give some potential to people in the North to work with.

Thirdly, as a comment, because we are dealing with mining, it might be a recommendation for the future if something of this nature is carried on to have films or a slide presentation available on ongoing operations so that people who are not familiar with the mining industry could identify equipment that is presently being used and have a little bitter appreciation for equipment that we might have some potential of looking at.

T. FOSTER: Yes, in terms of publications, I think probably Leon has a better idea of what's available. But just things like the Northern Miner and the Canadian Mining Journal, and so on, are laced with ads as to what type of equipment is being promoted and all you have to do is look at the pictures in the Northern Miner and you can see what kind of equipment is being used.

In terms of that report, I presume it's going to be public. I'd be disappointed if it wasn't. And your third item on public relations, or getting information out, films, or whatever, we will be working with the Chamber of Mines along those lines. As I said, we would like to try and get a mining trade show going similar to the BIG '86 thing in terms of the oil industry. The Chamber is developing a mobile display which, if Dave has his way, will be so flexible you can use it for anything you want.

Basically what you are talking about is a knowledge gap that we have and frankly I think that's the biggest problem in our supply sector right now. Our suppliers don't have the knowledge they need to participate in the industry and as that knowledge gap narrows those numbers I was quoting earlier will look a lot better. But you know we are trying to find ways to decrease that knowledge gap.

L. HARDER: Gordon, maybe I can just touch on the first and the third question. Terry's right about the publications he mentioned. The Canadian Mining Journal goes a step further and publishes on an annual basis, a Buyer's Guide which could also be used as a useful tool in reverse for suppliers, because what they do is canvass mines and accumulate information about what type of equipment is at each mine, so that might be useful.

On your third point about information that is available, although they are designed more as a public relations tool more than anything else, I know the mine that I work and I think, Dennis, at Polaris, you have a video, do you not? Yes. There are actually in existence now, at both Con Mine and at Polaris anyhow, 20 or 25 minute videos, depending on your knowledge of mining, may or may not be useful to expand it. As I say, it's public relations oriented rather than to develop knowledge. But if you are starting from the basics, it might be something to consider.

B. SHANK: I could perhaps add something to that. A few years ago, the Department of Regional Industrial Expansion in Ottawa did a study. I think they held a forum or something down in Vancouver, and then they accumulated a fair amount of information in a book, but on what mines are buying. I guess that would be, off the top of my head I can't remember, but if you can get ahold of the federal phonebook in Ottawa and look under D.R.I.E., the industrial group of D.R.I.E., you'll find a group in there that would be able to get you a copy of that.

Just one other point, I think if I were, in contradiction to what Terry just said a few minutes ago about a broker, I think if I were younger again instead of being close to retirement, I think I could swing something on a broker's line. It would be a good try anyway.

COMMENT: Yes, the classic broker is an expediter.

D. NUTTER: Further to what Bob has just said there about the conference that was held on supplying the mining industry in Vancouver, co-sponsors of that were the Mining Association of Canada and in our offices we have some details on that particular conference, and what we would do is put you in touch with the Mining Association of Canada who represent virtually all the producing mines across the country and have a system organized within their organization to identify purchasing needs of the mining industry. They don't act as a broker, but they have quite a bit of information available on the materials and supply needs and service needs of the mining industry.

T. FOSTER: I'd like to make one or two points. One is, quite often when local business bid on work and they don't get it, they come to the government screaming and I've had the unpleasant task a couple of times of following the complaints up. I followed one complaint up and the company was good enough to actually give me their spreadsheets where they analyzed the bids and in actual fact the supplier had no call for complaint, and the reason that he didn't get the bid was because he structured his bid different than everybody else. His attitude was, this is my price, you are going to pay it or you can go to hell. He didn't get that contract and he didn't get subsequent ones either because he didn't change his bidding procedures.

I guess the other comment I want to make is in terms of aggressiveness. Before I was speaking in terms of being aggressive in getting out to the buyer and finding out what they need. I'll give you my paper story which Dave Nutter has heard. This problem of developing the supply sector has plagued my mind for a number of years. Over the years I've talked to different people as to how we can improve the situation. I was having coffee with the President of a northern mining company and I brought this problem up to him, and his reaction was, well, they don't seem to be interested and he gave me an example of paper.

Every mine uses paper; forms, paper for letters, and so on. The company was buying its annual supply of paper. The buyer phoned the three suppliers in Yellowknife and said that this tender was going out. The tender went out and none responded. Well, one did. One said if you want to buy paper come into my store. Consequently, the paper was bought in Edmonton. That's one of the easiest things to supply, but because the suppliers would not get going, wouldn't even put in a bid, the money went South. When things like that happen it makes my job harder when I get a complaint and I have to try and track it down. You know it makes my job difficult and it really doesn't give me the heart that I need to do the job. So you've got to get out there and you've got to get that work.

EMPLOYMENT OPPORTUNITIES

D. Willy
Echo Bay Mines Ltd.

D. NUTTER: Thanks Terry. Any additional comments or questions people like to raise. Well thank you very much, both of you. And to close off this morning, another form of opportunity in doing business I suppose I could say with the mining industry is on the employment side. We have Doug Willy here who is Personnel Officer with Echo Bay Mines responsible primarily for their operations at the Lupin gold property, and Doug is going to give us some insight into the employment and hiring practices of one mine in particular, but of the mining industry, and talk a bit about the job opportunities in mining which, based on some of the conversation that we had yesterday, I think is an area of a great deal of interest to a lot of people in the room.

D. WILLY: Well I have some slides here which are just sort of some information stuff, but I would rather have the overhead projector for the other category. I think this morning, if I were from the North, I would probably be thinking that this morning was a little more interesting than yesterday. I don't even know if I know what heap leaching is and nobody told me, and flow-through shares are interesting, but if you don't have a job who really cares too much about it.

I liked the presentations earlier this morning too because they seemed more directed at the people who are here from the North. Yesterday I thought that we sort of got into a consultant talking to consultant situation. That's not what I want to do. I thank you for inviting me up Pierre because I've been involved in the North and in the mining industry and employment for about the last 15 - 20 years.

I first came to Yellowknife in 1969 to work at Giant Yellowknife Mine. I never thought at the time of why I came to Yellowknife. I was a farm boy from Saskatchewan, I had graduated in Chemistry, I'd never seen a mine before. In hindsight though I wonder why I was hired from Saskatchewan as an underground labourer and had never been in a mine before. Of course I knew quite a bit about farming and quite a bit about chemistry, but nothing about mining.

I think now I can see why there were not more northerners involved in the mining industry and I'd like to point out a few of them. Mining is underground. It's dark, it's usually cold, it's wet, it's noisy, and years ago the ventilation was not as good as it is today. The mills were wet, they were noisy, poorly lit. Mines weren't located in the area of most native communities, they were located where the mineral was. Mining was very structured and each area closely supervised. And I suggest, these three reasons were cultural reasons.

Native northerners had lived their lives in the out-of-doors. The underground mine was alien to their lifestyle. Although many natives lived off the land and travelled extensively, they were not willing to relocate their families to the sites of the mines. They had lived in different communities all their lives, why move to where the mine is?

Thirdly, the very structured, closely supervised nature of the mining business where what one persons does affects everybody else in the mine, was alien to the native view of, I won't tell you what to do if you don't tell me what to do.

These three reasons have been overcome I think and can become overcome better with good planning. Mines are no longer poorly ventilated, unattractive places to work. People do not have to permanently relocate from the communities they live in. The rotation schedule has become very popular, and very popular with everybody. People can live where they want and fly back and forth to work. The close supervision required is becoming more acceptable to everybody including native people because it exists from the beginning of school throughout society. Not everybody might like this close supervision but it's a fact of life.

There are two other factors though that I feel are much more important when I started mining and are still very significant. Firstly, no matter where you go in Canada, I believe there is a preconceived judgment towards native people. Native people have always been a minority group and in the mining industry in Canada, until recently, has been one of the most conservative industries in the country. I'll go even farther and say that all non-native Canadians have this preconceived idea of native people, even though 90% of them have never had any contact with native people. This was the most significant factor of why minorities such as the natives did not join and advance in the mining industry.

Headway has been made in some parts of the country and these biases have been overcome. It can be done and I'll use the example of the uranium mining company in Saskatchewan as a good example. Over 50% of the employees of this particular company are of Indian ancestry from Northern Saskatchewan. Over 65% of all the employees who are in the hourly type jobs, and this is right from the bottom up, there isn't one non-native in the Mine Department. The mill is 85% run by native employees. So it can be overcome and people can do it.

This is also occurring in the N.W.T. but at a much slower pace. I think when I started mining there were very few and I remember at Giant I can remember two guys, two native fellows working at Giant when I started there out of 350 employees.

The second contributing factor to the problem was the lack of preparation by the native people themselves, whether you are talking groups or individuals. This was coupled by the lack of foresight by the mining industry, of course, to provide or assist in education and training programs.

Two years ago, I attempted to locate any native northerners who are enrolled in post-secondary education institutes in the mining related discipline. I received the names of three people; one from Pine Point, one from Hay River and Arnold Enge sitting right back there. We hired all three of them. But of everybody enrolled in post-secondary education, there were only three enrolled in a mining related discipline.

It's not only the mining industry's responsibility to seek out natives and provide training in mining related fields so that they can be employed. It must be the responsibility of the individual, groups such as yours, and the government. Sure, there have been heavy equipment operator courses around the North since heavy equipment was invented. How many mill operator training programs have there been? There's not one that I am aware of, and I would guess that right now in the Territories there are over 250 mill operators. There's not a lot of jobs for heavy equipment operators. At our mine site, at any one time, there would maybe be five heavy equipment operators. We have 85 mill operators.

The point is that the responsibility must not only fall on the mining companies. It must be an individual responsibility. I think Leon was getting at a point there in purchasing. I don't think it's Leon Harder's, as Purchasing Agent of Con, responsibility to go out and solicit business from the band at Snowdrift. And the same with employment. I think that it's for the Snowdrift Band or somebody else to come and say, "Hey, this is what we can provide you with". I think it's the same in employment as it is with providing services.

This is more compounded right now because you know in the South we get, at our office in Edmonton, at least 200 unsolicited applications per week from people across Canada looking for work. And we are talking fully trained people; people who have been laid off in Pine Point, people who have been laid off in mines in Southern Ontario. So you are competing against a very well trained group of people.

I think what I'll do now is I have a few overheads, just to go through and show my point a bit here about these preconceived ideas we have about native people. Yesterday when a point was brought up once or twice, nobody said anything about a native person being hired as a mining engineer. You know, I've heard about guys being hired as line cutters maybe out there, or splitting core, labourers jobs. I just want to show to you what jobs are available in the mining industry. If I sound a bit nervous, it's because I am. I get fairly worked up when I talk about some of this stuff. I've been doing it for a while and it's a little frustrating sometimes.

But I'm starting at the top here. These are the positions that, and I'm using a typical underground mine operation. Our top guy is the General Manager, second is the Mine Manager, and about at the same level is the Project Manager. All of the managers in the company, you'll go through them all. There are mill superintendents, mine superintendents, maintenance superintendents, human resources managers (which I am, not a personnel officer like you said - not much of a difference), purchasing managers, like Harder, computer systems, transportation, accounting, financial managers. You don't just hire these guys off the street. These are jobs that I would guess that there isn't one person on there with less than 15 years experience, OR 5, 6, 7 years of post-secondary education.

There is a second group which I referred to about phoning, I phoned the government and asked them about people enrolled in any of this stuff. I got three names. Out of these three names, I didn't tell you, only one of them was a native, two of them were long-time residents of the Territories but they weren't of native extraction. All of these guys are the same thing. The only one really on this list, that you don't have to attend some postsecondary education is the purchasing agent. You can become a purchasing agent because of years of experience. But that's changing right now. All of the rest of these guys, you have to get your grade 12 and you have to go to university and you cannot do the jobs without that background.

Then you get into the technical end of it and a very important group. Safety specialist, instrumentation technicians, assayors, geological technicians, engineering technicians, mechanical technicians, laboratory technicians, secretarial, computer operators, surveyors, maintenance planning technicians, warehouse specialists, and draftsperson. When we say warehouse specialist, we are not talking about somebody to fill shelves. Echo Bay has $16 million worth of supplies in their warehouse, right now. We've hauled in over $16 million worth of supplies in the last three months for the whole year. So you aren't just a warehouse person any longer. These guys know how to operate the whole computer system that the company operates on. But all of these are technical stuff, very easily acquired. Grade 12, two to three years education after that and very essential to the industry. You can't run without these people.

Another very important group is the supervisory people. These guys are probably the only group that don't necessarily have to have a lot of formal education. These are our people. We are a non-union company, as most mines I think in the Territories are now, and these are the people that ensure that the work gets done. You can be a person long on experience with very little education and do good here. It's one area that I don't think we look for in the North. If you have a surface construction, any surface work, maintaining an airstrip, there's no reason why native northerners couldn't be hired in here because somebody's been maintaining a strip in Fort McPherson for 25 years now. More than likely it's a local guy. It's probably one of the only groups that you don't need a lot of education in some of the areas. But once again, when we are looking at first line supervisors, I guess we wouldn't hire a guy without ten years of experience.

The skilled positions. These, I think there is some success in hiring northerners. It's probably the easiest group to hire in the North because there are journeymen people around. If you go to most operations, I think this is the group that you would probably find the most northern employees in. Carpentry, for example. You don't have to have a ticket in these areas, some of them you have to have. It probably makes up the biggest numbers as far as the number of employees at a mine operation, and probably the easiest acquired skills also. Also it's one of the only areas that the government has provided training for in that particular group.

And then the last group that we call the unskilled areas which ticks me off a bit, as this is the group we talk about when we talk about northerners all the time. This is the only group that northerners will fit into, which is a bunch of garbage. But you even break these down. Miners. A miner, I call it an unskilled, but it isn't an unskilled. We have pieces of equipment up there that are worth $350,000, $400,000 for one piece of equipment. We don't put somebody on that piece of equipment unless he knows what he is doing. So our miners up there are guys also with ten years experience, at least ten years. I guess anybody who is in their forties who is working on them has been working in the mines since they are 18 - 19 years old. They are the guys that make really good money, probably $60,000 to $100,000 a year, but they are not unskilled people, they are unskilled as far as education goes, but not experience. I've got a "six" there because there are at least six different types of miners.

You get raise miners, we use alamac-raise miners on which, if you are an alamac-raise miner right and have the experience you can easily make yourself $80,000 a year. You don't just get in it though. The guys we've been hiring are, again, 8, 10, 12 years experience. Development miners - the old jack leg, conventional raise miners or the stopers.

Hoist operators. I'm amazed that there aren't, I don't know a northerner who is a hoist operator. Why not? Con has women as hoist operators now. It's just, anybody can do it, it's just you have to want to get in there and want to do it. No, that's not the point, anybody can do it, and why aren't there everybody doing it? I think that people haven't come and said, "Hey, I want to do that. I want to be the labourer, I don't want to be the hoist operator."

Underground equipment operators. Once again, there's a difference between a miner and an underground heavy equipment operator. I have a couple of slides and after I'll just point out some of the differences. Surface heavy equipment operators. There's a million of them in the Northwest Territories, but they are definitely not the highest paying jobs. They are usually the lowest paying jobs. You stay in one level for the rest of your life and you are there. We have a real problem with a heavy equipment operator not wanting to stay on the job, because he can't go anyplace. You can operate a cat, and you sit there, so most of the guys don't like it. Our turnover rate within the company itself is highest on our heavy equipment operators.

Mill operators. We have five levels of mill operator, with the top mill operator making $45,000 a year. None are from the North. Mill operators are not just a little job anybody can do. In the new modernized mines, we're spending $3.5 million this year on instrumentation and all of the mill operators who are involved have to know what's going on in this instrumentation.

Tire men, just changing tires on the big equipment that we have. We look all over Canada to find these guys and it's probably one of the hardest positions we have to hire, to find somebody who knows what he's talking about to change tires on 8-yard scooptram.

Labourers, trade helpers and apprentices, the only three groups that we can seriously look at hiring in the Northwest Territories. And they are the ones that we get all the applications for.

We've looked at approximately 60 categories of different jobs in those few slides. To qualify for 85% of these positions, an individual would require some formal training or post-secondary education and some previous related work experience. The other 15% of the job categories require less training but all, with the exception of the labourer, require varying degrees of training. The point is there are very few positions available in the mining industry for untrained persons, regardless of where they come from or what part of the county you are dealing with, and why set your sights on only the entry level positions.

How can you go about ensuring that the people acquire this education and training for future employment in the mining industry? My suggestion is that you have to address the two concerns that I raised earlier. You have to prove to the industry that people want the jobs and that the industry, in turn, can count on employees from the North to provide them the same dependable service as employees from the South. In our orientation program for employees from Coppermine, one of the biggest things that we try to convince them of is that they are important to the company, regardless of what the job is. We've got a couple of guys now training on the jumbos underground, and part of the training is to convince, if they are not there, what happens to the jumbo? It costs us money because we usually have to hire somebody on overtime to replace the person which puts your costs up and in the gold industry, cost is the bottom line.

Even a fellow who is the janitor. If he isn't there, somebody else has to do his work, so you have to pay overtime. You don't have the fleixibility of running out and hiring another guy right now. You know that's one of the things that you can't do. If you get another guy right now, you have to medical him in the mining industry. All of a sudden, your costs go up. To medical a guy costs us probably $120 - $130. You are looking at another seat on the airplane, so that costs for one trip $250. You have to have another room because the guy there, you can't take his room away because he is eventually going to come back. So you've got to prove to people that you, once you get the job, you have to be dependable. We have to do the same with guys from the South, it's no different where you are from.

You have to be innovative in your approach to acquiring the training required that in the past has not been given. I'll use the example again of another mining company. The uranium mining company that I talked about before, six months before their mill opened, they went to six northern communities in Northern Saskatchewan and said, "This is the opportunity you have. We're going to hire 48 mill operators six months from now. If you want to make yourselves ready for those jobs, we'll guarantee that we'll hire you."

What they did is they went together with the communities and with Canada Employment Centre and said, "Let's share costs of hiring a mill process specialist who knows something about adult education and design a mill operator training program". And through Canada Employment Centre and the company, they said, "We will pay people a base wage, you're not going to get rich on this, just enough to cover your expenses, to take this course. And if you pass this course, we will give you a job at the end of the session". They developed the course, solicited applications and had an entrance exam for the people before they could get into the course because they couldn't afford to waste any money. The entrance exam measured sort of a general level of education but with emphasis on mathematics and science. In order to train in the mill you have to know something about the chemistry of what's going on. You have to be able to have the ability to understand some of that.

The trainees were not only marked on their course content after they were selected, but they were marked on attendance. If you missed a day you were fired or you were sent home. You weren't interested, you didn't stay. In the participation that you had in the class when they were teaching, in the ability to work with others - when they get along, and the ability to take direction from the supervisor. And it worked, because when they hired their 48 operators in this project, they hired 36 Indian people from Northern Saskatchewan to operate the brand new uranium mill. And that had never happened anywhere else in Canada. And I mean, they were serious, and it worked. Right now, in that same mill (I haven't seen them or talked to them for two years), but I would guess there are only four non-native mill operators in that mill.

This type of innovation has to be done. Too bad the people from Neptune aren't here today, she's talking 115 employees up there. Nobody in Canada knows anything about heap leaching. There isn't another heap leaching operation in Canada that I'm aware of, well, there are, but there definitely isn't up here. Why doesn't somebody approach them and say, "Here, let's put on a course. We'll provide all the people that we can. Let's design a program to get into the heap leaching process."

The burden cannot only be put on the shoulders of the company starting the new mine operation. My boss, John Zigarlick, President of the Echo Bay Company, suggests that to open up a mine in the Northwest Territories it costs you 35% or 40% more than the same operation would cost you in Southern Canada. And some of the smaller mining companies, we're not talking Echo Bay, Cominco and those, but some of the smaller mining companies, an additional cost to provide recruiting and training for untrained employees would almost be enough to make it profitable or unprofitable. So it can't be the little companies' responsibility to hire additional trainers and training facilities that Jim Marshall talked about. Sure, with some of the major companies, yes, who have backup from other places, sure.

Your group must, however, be involved from the initial stages of the operation. It is considerably easier to have your people followed from the beginning than from the end. Echo Bay at Lupin is just a perfect example of this. Our turnover rate is probably the lowest in Canada and the lowest it's been in the mining industry for years. When I started here at Giant you could leave for two weeks for holidays. I remember in April of '69, I left and went home and visited my mother for a couple of weeks, came back and I only knew 40% of the guys that were there two weeks before I left because the turnover rate was unbelievable. That doesn't happen anymore.

Our turnover rate at Lupin, if you include everything, is maybe 10% - 12% a year. If you take out of that 10% or 12% the number of jobs that we have to hire someone with a mining engineering degree or geologist degree, alamac-raise miner, the number of entry level or positions where people can get in without some very specific training is down to 1% or 2%. So 1% or 2% of 350 employees is not a lot.

So you have to get involved at the initial stage of the operation. It's a lot easier. I think companies can afterwards have a target that, sure, when these positions come open they will consider anybody for the jobs, but you have so many limitations after a place is in operation.

You don't want to get into tokenism and quotas. I think having quotas on any company that starts up is a negative right off the bat, because a person should only be hired for what they have to offer the company. No one should be involved because they feel they have the right to be involved. There is no room for politics in these new startup organizations. The least interference there is from outside groups, the better off you'll be. This is not only for the employment aspects of a new mining venture but for the whole operation. Political stability is a must and you don't want to become a football for any local or regional politicians.

The next point is a very personal one and I think it's along these same lines of outside interference. Unions had their place I think in society at one time. I don't particularly feel that they do in the Northwest Territories with northern native groups getting employment. Unions are not there to get jobs for people who don't have jobs. They are basically there for the benefit of people who already have jobs. And if you are a group of people looking to get in, it just doesn't make sense.

I'd like to sum up by suggesting that you have to find some of the new mines that could be starting up in the next few years and you have to approach them, the same as Harder was talking about supply and services. It's the same with employment. There's no reason, right now particularly, why a mining company has to come to you and say, "Hey, do you want a job", because of these 200 unsolicited applications we get down South every week.

I think there are political reasons. We would like to hire more people in the North for sure, for a number of reasons. It's cheaper for one thing if you get the right people. And there are political reasons in everything.

So I think what you have to do is get together with the companies, or with the governments. Get together with the companies first and find out what is going to be needed in the next five or ten years. Get together with the government to see if they can help you provide some of the stuff, but more so, get your people to, the guys who are in grade 12 now, encourage them not to quit, encourage them to get into something. There's jobs there. Not to be too personal, I tried to hire Arnold Enge. I hired him for the summer. I couldn't keep him. There were so many jobs that the guy could go where he wanted to because he was a northerner who had got off his butt and went and got some education down South. And I tell you, that's the way it is with everybody. There's a competition, I think somebody else will talk later about this competition for northern people. There is. If you are educated, it's that much there, and you can be guaranteed jobs for the rest of your lives, and good jobs.

I'll just maybe quickly show you these slides, just to point out some of the jobs that I've talked about. Transportation is a very important part of our industry, unlimited number of jobs available in the transportation department. There aren't a lot of pilots in the NWT who are qualified to fly planes this size. Our is a 727. We also have a Lear Jet, we also have a Citation and a helicopter.

Computers. I don't think there is an operation right now that doesn't have a number of people, and we are talking everybody in the company, mill operators. The only guys I think that really aren't involved with them are the guys in the underground mine department.

Draftspeople, engineers, geologists, all those areas that you have to have education. You cannot learn these things on the job any longer, the education you need.

This is a two-boom jumbo. That machine is worth $3-400,000. You don't use it without a lot of training. Those guys can make $70,000 to $100,000 a year. Same type of machine. Most of these guys are miners who learned this after 10 or 15 years as miners. Very few of them are guys who just go in. You can operate the machine like nothing. I could go down there, but I don't know if I'd be that confident about the rock above my head. There are a safety considerations that this guy has to have acquired over 10 or 12 years of mining, are all part of the whole job.

These are various rock haulding and loading devices that we have underground. The same thing. They are easy to learn how to operate, but there are so many other things that go along with it. Just another drill. This is one of the mill operators in the mill, the fellow from Coppermine who has been with the company for about three years and is getting up to the level of a senior operator in the mill. It's one of the things that you can train and you can really learn on. Just another area of the mill.

This is a journeyman. There are journeymen of every type up there; this is particularly a welder. This is the powerhouse. Now a powerhouse operator, we generate all our own electricity up there, so the guys in the powerhouse, I guess all of them are, it's one area that we don't hire a lot of guys with a lot of education in because there isn't a specific course that teaches this type of stuff, but they all are fellows with 10 - 12 years experience in different places.

That's one of the diesel generators behind it with a control panel. This is the assayer in the assay lab. These guys here are, if we hire somebody outside, now we are looking for people who have one or two year technical school. There are a number of fellows now in the industry who have just been doing it for a long time. You can learn this stuff without going to school. This is the guy that pours the gold. He is also the senior mill operator in the mill. He just doesn't know how to pour their gold, he knows everything that goes on with it prior to getting to this stage of the operation.

And this is the warehouse. It's one very small part of the warehouse where it just isn't simply, they don't know where everything is in there, they've got a computer that tells them where everthing is, so there is a technical side of the job. And this is the hoist man, sits in and works the hoist. It is one of the trainable jobs that there are that you don't need a lot of education to get involved in. But we never get an application for somebody who wants to be a hoist man.

We get hundreds of applications for these guys. A lot of people can operate a truck, but there are only right now in the whole Lupin operation, we have 12 heavy equipment operators. Okay, thank you very much. Any questions?

Discussion:

D. NUTTER: Thanks very much Doug. I think that this was particularly informative and particularly pertinent for a lot of people in the room here and I know it's an area of a great deal of interest to a lot of folks. It is unfortunate actually that we are going into the lunch break right now, but if there are some questions, certainly we are prepared to stay on and Doug is to answer any questions you might have.

QUESTION: Could we just ask one question concerning summer employment opportunities for people, that you might have an opportunity for young people to experience something in the mines and, at the same time, get a feel for some of the areas of educational development or advancement that is necessary in order to work for an operation like yours.

D. WILLY: Okay, fine. We have a couple of restrictions. One of them is you have to be 18 years old to work in a mine like ours, so you are not looking at very many highschool students. We hire 36 summer students each year. That's what we are hiring this year. We try to hire a good number from the Territories. We have a policy, like most companies, where we really have three categories of summer students. We hire sons and daughters of employees who are enrolled in a related discipline. We hire a certain number of people from the different schools of Mining, Engineering, Computer

Programming, etc., because we have to do that and ensure a supply down the line. And then we hire, I think on my list we still have two guys from the Territories who are finishing Haileybury this year. We've offered them jobs already. And we don't get a lot of other applications from guys in the Northwest Territories. One of the main reasons is that I think a lot of these people would rather be an accountant with the government than an accountant with the mining industry. I phoned the Department of Education two years ago and got a whole list of everybody in the Territories enrolled in school. We subsequently hired only three people out of that group, no four. We hired a recreation guy too from Hay River.

So, yes, we do hire as many as we can but 36 is our limit. They do a very specific job. They are not excessive positions. The summer students are very productive people. We have limitations, but anybody who is interested should apply. It's a little late right now. At this time of the year, we've just about decided on who we've hired already and you have to because school is out in all those places down South in the middle of April and if you want some people you don't want to hire the last guys in the classes. You want the guys hopefully at the top and you have to offer them jobs early enough or you don't get them.

G. SMITH: One subsequent question. It's Gordon Smith from Aklavik. What about the arrangements for flying people in and out? You must have a staging area and if there are some smaller communities, how do you get people to the general staging area?

D. WILLY: We are talking specifically now of Lupin. Our areas of hire are Coppermine and Yellowknife and we have a plane, a Twin Otter, that services Yellowknife, Lupin, Coppermine. It is one of the most difficult things and the problems that that presents. You can't fly an airplane for one person. You can't fly an airplane for five people and make it economically feasible. If you have everybody changing on one day we have a problem. Our plane from Coppermine, for example, flies in on a Wednesday. If it happens to beat the 727 in and then leaves for Coppermine with all the people from Coppermine, there's nobody there to service the plane coming in from Edmonton, because about 60% of our surface crew is from Coppermine. This really presents some problems.

But you have to have staging areas. You have to have a mandate to hire from. We can't hire from Tuk or Aklavik. There's just no way we could afford to do it because it's expensive. So I think that if the mines are involved in those communities that are close to them, that's all that can be expected. It's difficult hiring people out of Yellowknife. There's not a lot of unemployed people in Yellowknife. I get more applications from Coppermine than I get from Yellowknife.

G. NORBER: If I could make one further comment though to clarify something that Doug just said. When he says they can't hire someone from Aklavik, I think what he is saying is they cannot provide transportation from Aklavik, that most of their Southern employees are not resident in Edmonton. I believe you have residents from virtually every province, or last year you had residents from virtually every province, and they get themselves to the staging point. So someone from Aklavik who chooses to get himself (Coppermine is not rational) to Yellowknife, I can't see,,,

D. WILLY: Oh yes, we do. We've got a guy from Rae-Edzo, and I don't know how he gets into town. We've got a girl from Fort Providence. They get themselves to Yellowknife, you know that's their business. Our pickup points right now are Coppermine, Yellowknife and Edmonton. If you live someplace else you have to get there.

J. DAY: John Day from Bosworth. Regarding your presentation there, are the 60 job categories going to be available for distribution, is it going to be in the report?

D. WILLY: Oh definitely. We have 129 job categories available, I just put 60 of them in here to make a point, so sure, any of it is.

G. NORBER: Doug, we will probably be covering this a little bit later. We are in the process at this time, with the Department of Economic Development, really coming out of the whole Lupin Project and experience with the Lupin Project of doing a study on the impact of the fly-in, fly-out operation that specifically you are doing, but trying to broaden it to see, not only in terms of northern employment, but the whole aspect of how it impacts on the economy of the NWT. I think some time in the new year this particular study will be coming out and taking a good hard look at the impact of the whole question of fly-in, fly-out.

D. WILLY: The most positive aspect of working at Lupin right now is the 2 and 2 rotation. We've got a guy from Coppermine that the government offered a job to not long ago at just about twice the money that he makes at Lupin and he said, no, he's not interested in it. And the reason is because he works two weeks, he goes home and does what he wants for two weeks.

J. DAY: I might comment on your rotation. My background is mostly oil and gas and a large part of it was with Dome's operation and our whole setup of northern hire and rotation of northern workers and we hired and rotated at company expense from just about every point in the Western Arctic, as far over as Cambridge Bay right down to Hay River, Fort Smith and Yellowknife and found it to be, most of the time, at the break-even point. Our pickup centres were wherever that person was hired. If they had to get on at Edmonton, we flew them to Edmonton from Yellowknife. If they were coming from Coppermine, or Holman, or Cambridge Bay, that's where we picked them up and we found that we could, it worked. It became expensive at times but if you plan your logistics properly, it worked, and the people are there.

D. WILLY: You can't compare the mining industry and the oil industry because of money. There is just a total difference. Your wages in the oil industry are altogether different. If we do a salary comparison in Alberta with the oil industry, we pay probably 70% of what the oil industry does.

J. DAY: Not according to the numbers you were flying there. In my experience with our Beaufort operations, our drillers, on a 12-month basis, and our superintendents with the bonuses, might make $70,000.

D. WILLY: But these guys make $40,000 a year and what they make extra is what they get on bonus, so it's an incentive bonus system.

J. DAY; But I just wanted to point out that we made it work, covering nearly half the NWT.

D. BERGEN: Dennis Bergen from Polaris. Just a comment. We run a different rotation schedule, considerably longer. Instead of the 2 and 2, we, in most positions, run a 9 week in - 3 week out rotation. There are financial considerations that can make that better or worse. Currently, we handle transport from point of hire to the site and back and that fits for northern and southern employees. We don't run any of our own aircraft so, in some cases, some people end up with some onerous travel. I can think of one of my employees who has to go up into the Central Arctic and has to spend three fun-filled days in Frobisher Bay to get home. He doesn't like Frobisher Bay by the way, so there is that down side, but it takes away some of the expense that you see when you are trying to put all your people onto one aircraft. There are differences in the operations. I just point out that we operate in a slightly different manner.

D. WILLY: As does Terra and everybody else. Everybody has there own little system.

G. NORBER: I might point out here that the position of the GNWT is that, and I think it goes for any industry, if you take your product out of the NWT then you should hire in the NWT and you should damn well pay your taxes in the NWT. And to go a little further, we are making that particular statement very clear for the operation and maintenance in the North Warning and would just like it noted by the mining people that I think you're going to be starting to get a lot harder push to go that route. Knowing that the majority of you hire or have your personnel living here, but when we talk of 20% that do not live in the NWT, that 20% you can put down to a couple of operations and from those couple of operations the amount of dollars that are literally flying south of the border with very little impact in the NWT, it makes for quite an impact. I just thought I'd bring that up to bring some perspective into this employment and training.

D. NUTTER: I'm not sure if it's appropriate for the chairman to respond to that but I note also one comment you made yesterday of the fact there is quite a small resource base out there and a lot of competition for that limited resource base. When I say resource base, I mean a resource base of people able to fill the positions, and there is a great deal of competition between the government, the mining industry and other employers for a limited number of individuals in the North who are actually qualified to fill the positions. So the policy position of the Territorial Government which you have just stated about hiring northerners, which one could take to the ultimate point of saying all workers need to be northerners, I assume the government does not actually feel that is a feasible position to be taking.

G. NORBER: Let me clarify that a little bit. Whether your employee comes from Alberta, Saskatchewan or Timbuktu, at this point doesn't really matter so long as he lives and pays his taxes in the NWT. You are taking a product out of the NWT. Now I don't see any other province letting you do that. If you work in Alberta or Saskatchewan or Ontario, those provincial governments usually insist that you do a majority of your business in those areas. Now if they are not, and I can give you some specific examples if you want, but as a general rule, that is the case. I mean it makes sense. If you are mining in Alberta coal, or whatever it is, I am damned sure that if you are flying your workers in from B.C. into Alberta and flying them back out and they are paying their taxes in B.C., they wouldn't let you do that for very long.

D. WILLY: No, there are no regulations that I'm aware of. In the mining industry, when I was in Saskatchewan, we had guys living all over.

G. NORBER: I'm not saying it's a regulation. I'm just saying that that type of idea is coming to the front, to be aware of it and there's no other way around it.

D. WILLY: Well, I personally think there is because I don't know of a company who wouldn't hire people up here if the people were here to hire. I know it's definitely our company's policy. If we could hire the mining engineers out of Yellowknife, we wouldn't go to other places, but we can't.

G. NORBER: We will be covering this afternoon some of the ideas that are being generated, as I mentioned yesterday, of the development of a mining school as such and how we can address the whole problem of training, and like I said, the ideas of this group will be taken into account and I would hope at the end of it that we would start some sort of action group for input through the Chamber, through the industry and through government, and through the development corporations on how we could address it in terms of "a school". That direction has to come from this group and not all four corners are represented here. Under the development plan of the Arctic College, the government would like to introduce some sort of again "school of mines" in the NWT and we will be looking for good solid direction from this group as to how we can approach it and how we can proceed to address exactly what you are saying, hiring mining engineers and all the technical staff.

There are a lot of programs already in place but for numerous reasons, we haven't been getting the message out. Industry hasn't and the government hasn't been getting the message out as to what the available jobs are and what's required for each job.

D. NUTTER: Gord, if I could just interject here. I certainly don't want to cut off this conversation in total, but I think that we are really well into the lunch hour and we've got a really full agenda as you've already noted, this topic is going to come up this afternoon, and the fact that the agenda is particularly full for the afternoon, I think we should break now so that we can get back here at 1:15 so we can continue with this discussion following some of the speakers, particularly from your department.

GNWT ECONOMIC DEVELOPMENT

A. Vaughan
Economic Development and Tourism, GNWT

D. NUTTER: Our first speaker is Allan Vaughan and I want to thank him for the first five minutes of his speech. It's been particularly memorable, not very contentious. Allan, I'm not sure how I'm going to introduce you. You, as of a day or two ago, were Acting Deputy Minister. Well, you are still in the position of Deputy Minister of Economic Development and Tourism, or Acting Deputy. Allan, I think, is pretty well known by everybody in the room here and the section we are going to spend time on the first part of this afternoon is government support for native participation in mining, and Allan's going to lead off on this particular section.

As I mentioned just before we broke for lunch, we've got a particularly tight agenda for the last part of the afternoon. I don't really thank the organizers of this when I look at how many people we've got to squeeze into this afternoon, but any speakers who are here now should be aware that for the first time I'm going to start watching the clock very closely and keep to the allotted number of minutes, or try to keep as close to the allotted time set aside for each speaker. So Allan, you've got 15 minutes.

A. VAUGHAN: Ladies and gentlemen, it's a pleasure to be here talking to you today. Through this conference so far, you've heard speakers discuss the importance of the mining sector, the regulatory environment, how mines get started, job and business opportunities associated with mining. I've been asked to elaborate on how your government can help you benefit from mining activity.

It's important at the outset to clarify the mandate to the Department of Economic Development and Tourism with respect to mining. We have three intertwined objectives. The first one is to increase the amount of mining activity. The second is to increase the percentage of contracts awarded NWT businesses by mining companies. And the third is to increase the percentage of NWT labour on the payroll of mining companies.

Put more simply, my boss, Mr. Sibbeston, the Minister Responsible for Economic Development and Tourism, would like to see more exploration activity, an increasing number of producing mines, more northern businesses supplying goods and services to mining companies, and more northerners employed in the industry. Mining is the single largest contributor to our economy, and yet we have not begun to aggressively go after all the possible benefits. With some hustle on your part, some support from us, and a commitment from the companies, much can be accomplished.

There are two different avenues available to you for participating in the industry. First, you can join the mining industry, or, second, you can become an employee of a mining company or of a company that is a supplier of goods and services to mining companies. Mr. Lovely and the GNWT Department of Education will speak at some length on how the government can assist you in gaining employment in the mining sector later today I believe.

I'll concentrate on programs which are intended to support your interest with regard to participation as a business in the mining industry.

Join the industry. How does a northerner become part of the industry? There are a number of options. Prospecting. You can acquire the skills if you do not already have them to prospect for minerals. With the right skills and a lot of luck, a person can stake promising properties. With respect to prospector training, we plan to work with the industry through the Chamber of Mines to set up prospector training courses. Training courses have been run in the provinces and the Yukon quite successfully.

Second, you can supply goods and services to mining companies. You can set up a service company, or existing companies can diversify to provide support to exploration companies or producing mines. If you want to start a business which directly supports the mining industry, we can be of assistance. We have a variety of programs which can be used to obtain financing; the new Economic Development Agreement, Special ARDA, Small Business Loan Fund, the Eskimo Loan Fund, and our Grants and Contributions Program to small businesses.

In addition to financial support, the department will provide business advice, where needed. If we do not have the expertise on staff, we usually can find it for our clients. We do have a very active program in assisting in bringing in outside expertise.

We can also provide indirect support to interested NWT businesses. Recently, agreement was reached with the NWT Chamber of Mines to undertake a number of initiatives which will help in the development of a profitable, resident owned and managed mining supply sector. Some of the highlights of that agreement include production of an industry service guide. Companies wishing to provide services to the industry will be listed. If the buyers of services do not know you exist, how to find you or what you can provide, it is unlikely you will get any work or for that matter, get on bid lists.

There is a production of a survey of industry intentions. Northern business tends to need more lead time than those in the South. An up-to-date report identifying likely mineral related developments and industry purchasing intentions should help prepare businesses to prepare more effective strategies for increasing their sales.

Third, co-hosting a trade show. The industry must know what is available in the marketplace. Trade shows such as Big '85 held in Inuvik, if any of you had the opportunity to attend, are ideal forums for buyers and sellers to meet. This gives you an opportunity to make personal and direct contact.

Import substitution study. In conjunction with the Chamber of Mines, we want to let you know where solid business opportunities exist through understanding what goods and services are historically purchased from southern suppliers and the value of those purchases, northern entrepreneurs can identify new opportunities.

Information. Information is the key. Production of a guide to doing business in the mineral sector. Such a guide would provide the types of information which you have obtained through the conference. It would be available in several languages, contain the required basic data for doing business with mining companies, and be widely distributed. A similar program initiated by the oil companies and government for the oil and gas sector was most successful and is still paying dividends.

You can become a supplier, as I've identified, or you can take the third avenue for joining the industry, equity participation. There are opportunities for investment in companies that already have properties or a producing mine and there are opportunities to go into joint ventures. The Department actively encourages southern based mining companies to seek out northern partners. Northern groups can make use of our programs such as the Venture Capital Fund to help them in raising equity. The settlement of land claims may also provide a source of investment capital for the development corporations.

In summary, the Department is now adopting a very pro-active approach with respect to the mining sector. We are taking concrete steps that should result in a healthy and expanding industry with increasing participation by northerners. There are opportunities for NWT businesses and development corporations to make profits and I detect a real willingness from the mining companies to direct business to northerners. It is accepted that northern businesses can be competitive and provide the quality services that the companies rightfully expect.

The Department of Indian and Northern Affairs deserves a vote of thanks for taking the first step in establishing a mutually profitable relationship between the native business community and the mining community. Thanks.

Discussion:

D. NUTTER: Thank you Al. I think that the industry, if I can put in a plug here, is particularly appreciative of the support of Allan and the department he works with and his government for the support they've given to the mining industry and the interest they've shown in the mining industry, particularly in more recent times, and I think that just hearing what Allan has to say today that the government also is not only interested in supporting the mining industry, but would appear with these initiatives that they've embarked on are particularly interested in seeing northerners involved in this industry. I shouldn't say any more, but turn it over to the floor and see if we do have any questions or comments from participants.

G. PATENAUDE: Allan, I wonder if you could just for a moment elaborate a little more on the Business Ventures Program and what the possibilities might be for native corporations to access that.

A. VAUGHAN: The Venture Capital Fund?, Yes. For those who want to get really into the details of the Venture Capital Fund, if you let me know at the end of the conference, we have some very detailed written information on it, published information which is available. It is a good avenue to enter into a joint venture. It can provide larger amounts of money than what exists under other programs and there is a 1/3 contribution under the program by the Government of the Northwest Territories, and it allows for northern companies to become involved with southern companies to assist them in creating the equity to join into that arrangement, and encourages the sharing of management skills and business advice.

The program itself has got all sorts of steps in it and it's a tad complicated to go through, but just maybe the highlights. There is a very good brochure if anybody is interested in doing joint ventures and they believe that the Venture Capital Fund might be a way of going about it.

G. PATENAUDE: I also have an interest in the following area. There is in some areas a lack of business management expertise and I wonder if your department is looking at the possibility of developing some program in providing assistance in that.

A. VAUGHAN: Yes. We are very concerned and very aware of the problem of lack of business skills. It's being addressed on several fronts. The Department of Education, through the Arctic College programs, is supplying a number of business management skills programs. In addition, the Department makes available people who have a lot of knowledge to individual businesses to consult with them and help them draft business plans and provide management expertise, and that's something you can access through our regional office.

The third way in which we are attempting to deal with it is a new program which we hope to bring out this year in conjunction with CEIC, the Department of Education and ourselves. It has to do with one on one counselling. Where there are businesses that are getting started and they do appear to be viable sorts of businesses and the key thing they are missing is skills, in terms of managing their business, they will be able to have someone come in and spend an extended period of time with them, working right there in their business helping them get off the ground and get started. It has the really innovative title of "One On One", and the One On One Counselling Assistance Program we do hope to have on stream within the next month.

For people who are interested in the details, there are several publications which the Department puts out on the services to business, how to establish a business, sources of funding for businesses, and you can obtain those documents through your local area office, through your Area Economic Development Officer, through the regional office and, more importantly I guess, is when you go in an see them they are a real fountain of information as well. They would be more than pleased to sit down and work with you and tell you about some of these programs and help design a program that meets your needs.

We are committed to helping you get involved. We are trying to make our services better all the time. We are trying to make the programs the ones that people need. There are lots of opportunities I think, as you've heard. I may be a little soft on the numbers, but 10% - 20% of the existing contracts which mining companies let, that's all that's being retained in the territorial economy. There is an awful lot of room for growth there for northern businesses to pick up some of that activity.

D. NUTTER: Thank you very much Al. Any other questions people have of Allan before we move on. Yes.

J. DAY: John Day of Bosworth. Sorry for being late. Did you mention something about joint ventures? Did you talk in depth about that? My question is, I'd like to know the disadvantages and advantages of a joint venture, if you could briefly elaborate on that.

A. VAUGHAN: The advantages of a joint venture is that, and I guess it depends on who the joint venture is with, if you assume that you have two willing partners, two people who want to get together, then it can be mutually beneficial. We often see instances where someone has the skills and someone else has the money and the two, by working together, can make that happen in a very profitable way. Or in other instances, you might see where somebody has knowledge of the market, a particular market, so they have information, and they combine with somebody else who has the money.

I guess the advantage of a joint venture is you take one group that has some strengths and some weaknesses and you put them together with another group who have their strengths where the other guy's weaknesses are and vice versa, and together, the two make a team. Now we do a lot of work in terms of counselling with people entering into joint ventures. It's a lengthy process normally, structuring joint ventures. You become involved with all sorts of specialists; accountants and lawyers. It's really important to have management agreements and very well drafted out agreements so that you know what you are contributing and they know what they are contributing and you both know who has what in the new business and what the responsibilities of each are.

Again I say that the Department, in terms of all of our regional offices, has had a lot of experience in helping businesses enter into these joint venture arrangements and they'd be more than pleased to sit down with you on a case by case basis and go through it and give you some suggestions.

We've done them for things as diverse as renewable resource projects, hotels, service businesses, construction companies, all sorts of different things, and there is no reason they don't happen in the mining industry. I leave it to Dave, but it's my observation that the mining industry and the oil and gas industry I guess were one of the groups that really did a lot of pioneering work in terms of joint ventures. Most of the work which you do are joint venture sorts of arrangements and so I expect you'd find a real willingness. If you could bring something to the table, which is what everybody is always looking for, if you can bring something to the table; knowledge, information, labour force, equity, then I expect you'd find somebody who is prepared to chat with you.

D. NUTTER: Just to follow up on that, you are quite right Allan. The joint venture mechanism is something which the resource industry, both oil and gas, and mining, are very familiar with. They engage in joint ventures all the time. It's actually quite rare nowadays that you'll find in either the exploration or development of a mineral property that it's done independently by one company. In some fashion or other, they very often get involved in joint ventures, not only the junior companies, but the larger companies.

Another reason is just to share the risk. As we heard yesterday, resource development is a risky business and resource managers try to share that risk and protect the assets of their shareholders by entering into joint ventures, so it's not something new to the industry at all. Yes, Pat.

P. SCOTT: I think you've probably answered my question. I was wondering, from the industry point of view, what weight is placed on equity versus those other criteria for joint ventures?

A. VAUGHAN: As I said, information, knowledge of market and those kind of things.

D. NUTTER: I think that literally you can say that every joint venture is structured, I mean there are standard formats sometimes for joint ventures. If it's a property acquisition, there may be a fairly standard format. Having said that, almost every deal is, they just don't have a form where you write the name of the individuals at the top and sign the bottom. Every one is structured independently to take into account the special circumstances of that deal.

P. SCOTT: I realize that, but I'm wondering if the mining industry has a preference in the types of joint ventures they are willing to look at. Do they prefer equity joint ventures, or do they prefer other types of criteria?

D. NUTTER: Perhaps I'm not the right one to speak on behalf of the mining industry in this, that the individual operator should. But having said that, while most joint ventures do involve equity in some fashion, I don't think they are married to that, and looking around the table, perhaps Dave Trueman is one person that might be able to help us here.

D. TRUEMAN: It should be borne in mind that a joint venture is usually structured for tax reasons, but when a joint venture does come together in the mining industry, it's usually because somebody - a company or a prospector, has claims and the joint venture partner has the money to do the work.

P. SCOTT: from the community organizations' point of view, the one thing they obviously don't have a lot of is equity. We may have labour forces, we may have some knowledge, we may have other criteria to be considered, but I'm trying to get an honest and real reading as to what value they really have if we were to approach the industry.

D. TRUEMAN: I think you are hearing both sides too. There is a difference between joint ventures perhaps, in terms of the ownership of a property, as opposed to a joint venture, in terms of supplying a property with goods or services, and the criteria are a little bit different given the motivations in the business plan of the company that you are joint venturing with.

Within the service trade, I've seen ventures come together just because somebody has some equity and an interest, but they don't have the labour force or they don't have the geographic location and the other side is being done very little other than that. That might not be the same, probably isn't the same, sort of emphasis that would be put on criteria like that if you wanted to buy into a property that was producing, if you follow. So it really depends on what the purpose of the business arrangement is. Both sides are going to make sure that it's profitable for them.

P. SCOTT: Just one final issue. Going back to Dave's comment. There is no tax advantages in supplying labour in a joint venture, I don't think. I'm obviously not an expert at any of this, but I'm just trying to understand, from the community point of view, what we might be able to identify as viable assets, whether it's labour or knowledge or a perception of lands being community lands that may be of interest because of the mineral deposits. I'm just trying to get a sense of what we can bring to the mining industry from the community, over and beyond dollars, to discuss joint ventures. And if there is no tax advantage, what advantage is it to the mining industry?

J. HODGKINSON: Not speaking for industry, as a federal civil servant, but I think we are talking about two distinct types of joint ventures. Mining companies joint ventures would normally be in relationship to the ownership of the mineral property, and I think there is clearly an opportunity for a community that has its community in an area of attractive mineralization to get into the prospecting business as individual prospectors or groups of prospectors. Obviously you have to learn the business, but there is an area in prospecting as individuals staking claims, finding mineral properties, and if you find the mineral property that has potential, then that's what the person without a lot of capital can bring to the table with a mining company for a joint venture. And the usual process there is that the mining company agrees to spend the money to develop the claims to see if a mine can be found on them, and in exchange, the company will want an increasing equity or some portion of ownership in the claim.

Now, another area of joint venture that relates to the service industry would not normally be with the mining company. I think probably the sort of joint venture you'd get there would be an organization wanting to supply some goods or services in the North, having knowledge of the needs of the mining companies in the North, might structure a joint venture with a company down South that knows the supply of these services from the southern point of view and you could work a joint venture there which would have a southern company acquiring the goods from the manufacturer and the northern company dealing with the mining. So that's an entirely different sort of joint venture. It's not related to the mining company, but that's two suppliers getting together to each put their individual strengths so that they mesh, so that you've got covered off both the acquisition of materials from the South and the ability to supply them to the companies that need them in the North.

D. TRUEMAN: I think Pat if I can just make one comment to close this off. While nothing comes immediately to my mind that would satisfy this question of a tax advantage to the mining company in doing business under this sort of scenario that you've painted with the community, on the other hand, I don't think that anybody here from the industry side would reject the possibility of coming into some sort of joint venture on the basis of employment or other local skills. I think that it's something we have to think on for a bit, that just at the moment it's a hard one to address, but I also don't think that any of us would want to reject it out of hand. And I guess, to look for an out, I've used the word innovation again, and all of us perhaps have to be innovative in our thinking in this area.

COMMENT: Just again, in terms of furthering it along, in some instances, and I guess it really depends on the state the company is at and where you are trying to enter into the process, is that sometimes you can, as opposed to hard, cold cash, you can provide services or infrastructure which will reduce somebody else's capital outlay with respect to development of the property and that can be all the way from office support and office space to building things, to, if it's a community development corporation that has heavy equipment, then you can work your participation.

Subject to the company and their interests and their needs, is that there might be some way of potentially structuring an agreement so that you are contributing goods and services to obtain an equity position in the property. And, again, that was sort of twigged by the thought of innovation. And some of the community development corporations do have facilities, accommodation. I've seen some of the hotels develop as a result of pledging free room nights for construction crews, as a for instance, or sharply reduced ones as a way of gaining equity.

INDIAN MINERALS WEST

D. Alley
Indian Minerals West

D. NUTTER: Perhaps we should move on, but we won't forget what we've been talking about here. Thanks very much Allan. We've got a series of four speakers now coming up who are going to continue with this theme of government support, and we've made provision for discussion following the four speakers having made their presentations. And so, what I would do is call each one up in turn and then perhaps they can adjourn back to their seat and, because there isn't really room at the front, we can take discussion from around the table after all the four presentations have been made. So first up we have Doug Alley from Indian Minerals West in Calgary and I won't go into any further description. Perhaps, Doug, you may want to give yourself a little further introduction and continue on with your presentation.

D. ALLEY: I'm actually here wearing two hats today. I'm representing two organizations out of Calgary, the first being Indian Oil and Gas Canada, which was formerly the Oil and Gas Division of Indian Minerals West. It's now a separate organization with its own geological and engineering staff, and they have responsibility for oil and gas exploration and development on Indian lands in Canada.

Indian Minerals West, of which I am a geologist, was established in the mid-1950's. We share personnel and administrative facilities with Indian Oil and Gas Canada, but we are independently responsible for all aspects of exploring for and the development of all other minerals on Indian reserve lands in Western and Northern Canada.

I have a few slides here. I'll show those and as I go through them I'll explain the type and diversity of services offered by Indian Minerals West and especially those projects we've been involved in for the last couple of years.

The key to accessing our services is the Band Council Resolution which you see here. I suspect here in the North, they could come from a development corporation and be submitted to Phil Lee's shop here in town. Based upon the B.C.R., we would perform office literature search, provide maps, do aerial photo interpretation and so on, as required and as requested by the band involved.

The next step, of course, would be bedrock mapping. This particular project took place on behalf of the Ross River Band in the Yukon, looking at a barrite prospect. It was actually not on reserve land, of course, in the Yukon and it was one of the few times in the past that we did undertake a project off reserve lands, but things have changed recently and I'll tell you more about that in a few minutes.

More than 50% of the time of all of our geologists is spent away from the office. We have three geologists and three technologists. We are stretched pretty thin but within our manpower and budget capabilities, we attempt to do as many of these projects as we can in a given fiscal year. Further to some of the others we've done, my particular specialty is in drift prospecting.

This is a Wacker overburden sampling survey done in Northern Saskatchewan on Indian reserve land, again. It's an area that's very hot as you may know now for gold Most of the land is staked solidly and this particular reserve was one that had been approached by several mining companies to enter into a joint venture and so on for a gold exploration play. The analytical results from those types of surveys are, of course, provided confidentially to the band, and there was some mention earlier about what the band can provide to a joint venture. This may be one way. an evaluation of an area, for instance, and provide this kind of data which could then go into the joint venture negotiations.

We have some of our own geophysical equipment. This is a Geonix EM-31 conductivity survey, a conductivity unit, which was used in a survey about a month ago in the Peace River country. As you may know, that area is suffering from the fact it doesn't have much gravel and this particular band wanted to resurface their airstrip and so we went in there on winter roads and were able to find a substantial quantity of gravel for them. As well, they were interested in a clay source to be used as an impervious liner for a sewage lagoon. We were able to come up with that as well.

Another piece of equipment we've used is the Scintrex RSP-6, which is a resistivity and self-potential unit and, again, this is mainly used for sand and gravel evaluation, however, it also has been used in groundwater surveys which have taken place in some parts of Saskatchewan on occasion.

The most used piece of equipment in all our studies to date has been the backhoe. This is usually rented from the band and therefore provides some employment and some income for the band while the project is underway. When heavier equipment is required, we contract this. This is a Nddwell-mounted power auger and in this case it was being used in Northern Alberta on a marl deposit. We outlined a deposit of marl. And after all of this work on sand and gravel and these other things, hopefully a pit will be developed. We monitor the development of those pits. We assure the compliance with environmental guidelines. We negotiate the permits and provide as much technical help to the band involved as possible.

As mentioned in Pierre Laporte's talk yesterday, diamond drilling is very expensive. Funding for this type of expensive exploration has to come from elsewhere. However, when it does, we are involved in the technical end of things. We sight the holes, log the core, do an interpretation, cross-sections and make maps and so on, and in this example, we were able to assure a 25 year supply of fire clay for this brick plant in B.C. which is on an Indian reserve, and on that basis, the band was able to go to the banks and financial institutions and obtain financing for the expansion of their brick plant (and you can see some of the product there in the foregound) and they are doing quite well.

Placer gold is another area we've been involved in recently, in B.C. especially. We certainly, again, hire band labour. Here you see some of the fellows doing some panning and sampling, the same on the next slide.

We also take much larger samples on occasion here and for processing we use a Flying Dutchman, a small super panner machine. Again, band labour is involved there. Eventually, on the basis of what we found on that study, we came up with a flow diagram. The band decided not to go with what we had shown here, being quite an expensive operation with the equipment needed and so on. They decided instead to go with development of a tourist facility. They opened up a campground which we thought was fairly innovative, they put up a big sign that said, "Stay on our campground, you can go and pan for gold". They are doing quite well.

Again, some of the band labour and the ubiquitous backhoe. In this case, we were looking for fossil ammonite; it's a 60 million year old fossil. It is Alberta's only gemstone. That's what it looks like in the ground. That's a closeup of some of the shell, and after processing in the little cottage industry that has been developed on the reserve, this is called a cabishon, it's the actual gem that is then eventually mounted in the jewellery shop on the reserve as well into the jewellery you see. You can see some earrings at the top and, of course, the tie. All of this material now called ammolite, will be for sale during the winter olympics in Calgary. We hope to have it named the official gem of the olympics, and that negotiation is ongoing.

Phil Lee has asked that I mention that the B.C.R.s shown in the first slide can be accepted in his office and he will act as liaison between Indian Affairs here in Yellowknife and our office and will also help coordinate mineral exploration projects that may be available or may be requested by people in this area.

In conclusion, we are strained by limited budgets and manpower, as is everyone, but our recent move from lands, reserves and trusts into the economic development sector of Indian and Northern Affairs has meant a change in the focus of projects and their goals. In the past we were limited to working only on established reserves, now my director assesses each band council resolution or proposal on the basis of its potential economic benefit to the band. I think the slides have shown a few innovative ideas that bands have come up with in using their mineral resources, and I think if a band or organization, Indian organization, native organization here in the North requests our service, certainly they will be looked at on a case by case basis and certainly we can provide service up to the capabilities of our budgets and manpower. Thank you very much.

INDIAN AND INUIT AFFAIRS

P. Lee
Indian and Inuit Affairs

D. NUTTER: Thank you Doug. As I say, we will hold off on any discussions until the balance of the speakers have come forward in this group. Our next speaker is Phil Lee from Inuit and Indian Affairs here in Yellowknife.

P. LEE: I'd like to thank you for this opportunity to make a very brief presentation. Indian & Inuit Affairs in the Northwest Territories does not have a program that specifically relates to resource development and mining. However, as Doug has just mentioned, we are establishing a working relationship with Indian Minerals West which is associated with our headquarters offices and can provide the technical expertise for mining development activities in the Territories. Again, obviously within the constraints of their budget, there is a limit to what they can do in helping to develop a prospect, but the technical expertise is there to get things off the ground and our office would act as a liaison with them to ensure that native organizations and bands in the Territories have access to these programs and can take full advantage of what services are available.

So, Indian & Inuit Affairs in the Terrerritories is, as is often the case, facilitory in nature. We act as a liaison with different programs that are specifically geared to mining and economic development activities. We have a good working relationship with the Government of the Northwest Territories, Small Business Loan, Economic Development & Tourism. We have a working relationship with the Native Economic Development Program, with the E.D.A., with A.R.D.A., and with Canada Employment & Immigration on the training and manpower development side.

In that respect, I think we are able to, while not necessarily providing the service ourselves, ensure that our client group has access to these programs and can get over any stumbling blocks that they might incur in getting their proposals presented and accepted.

Aside from that, we can also assist in accessing outside technical expertise through our Business Development Program in particular areas utilizing the services of agencies such as Canadian Executive Services and the Federal Business Development Bank. We can help in establishing your business plans and, in some instances, in providing some technical assistance and looking at your prospective projects. In cases where there is an identified business opportunity and a requirement for some equity assistance, we can, within limits, provide contributions to help meet the equity requirements.

Again, we are all working under certain voluntary restraints, cutbacks, not just in staffing but in dollars, so it's very important I think that we, as an agency working for native people, keep on top of the different programs that are out there and not necessarily depend strictly on our own budget to be able to help you meet your goals. Our primary goal is to help you in this regard, assist where we can financially, and with advisory support, but more importantly, to put you in touch with the agencies that have the resources and have the technical expertise to do this.

I am very pleased that we were able to have Indian Minerals West come up and make a presentation on behalf of the Department. It's a program I don't think has been used extensively up here. I understand there have been a couple of projects like Rayrock where they were initially involved in some assistance there, but I would hope that as this year and as opportunities provide themselves, that we will be able to develop a relationship there and access that kind of assistance for you.

DEPARTMENT OF REGIONAL INDUSTRIAL EXPANSION

C. Yeo
Department of Regional Industrial Expansion

B. NUTTER: Thank you very much Phil. Again, moving on to the next speaker, we have Craig Yeo who is with the Department of Regional Industrial Expansion in Yellowknife. Of the various brochures we have at the back table, the most colourful one, which has on the cover the aerial photo of Yellowknife, comes out of Craig's Department.

C. YEO: Good afternoon. I'd like, first of all, not to indicate a lack of interest in the goings-on here by the lack of presence of DRIE the last couple of days. I'm just back into town myself today and my Director and others in my office are out of town at the moment.

I think, as Allan Vaughan did, I'd like to try to acquaint you first of all with the mandate of DRIE as it relates to the mining industry because, really, our mandate is quite specific as it relates to the pursuit of opportunities in the mining industry.

DRIE is normally responsible nationally for manufacturing processing activity, small business and tourism. We are not involved in the primary exploration for and extraction of mineral resources. So DRIE's role, as it relates to the mining industry in the Northwest Territories, can really be said to begin after the forces in the marketplace have determined that mineral development will proceed. We focus, in the Northwest Territories, in providing support to economic opportunities that arise from mineral exploration and development.

As Allan Vaughan has gone over some of these things, I'd like to be a little more specific because our programming is specifically targetted.

We provide assistance under a number of agreements for the establishment, modernization, expansion and acquisition of mineral exploration support companies. These opportunities that come to mind are staking firms, catering firms, expediting firms, and transportation firms in support of mineral development activity. In the same light, we can also provide assistance for the examination of opportunities for these types of firms and, indeed, in this case, for viable mineral exploration firms.

We provide assistance as well for the establishment of manufacturing and processing facilities that provide materials to the mining industry as it develops, and this is really where our mandate lies and our activity, to a large extent, lies and, of course, for the manufacture of goods and materials from mineral extracts.

DRIE assistance programs do not include support for pure prospecting and activities. Our programs, as they are laid out, provide that a clearly identified and viable economic enterprise must result from any assistance that's given, so our support is not available for pure prospecting and, naturally, our support is not available for portable equipment. Our individual support programs have restrictions on the eligibility that I'll deal with after, but I'd just like to give you a brief overview of some of the programs that our available that many of you are probably aware of here.

The primary program in operation in the Northwest Territories since 1977 is the Special A.R.D.A. Agreement. Special A.R.D.A. provides for a number of varying ceilings of assistance for the, again, establishment, modernization, acquisition of business enterprises which would employ a majority of native people. So, again, our involvement here is in support and service to mining industry, not in development of minerals. Assistance is also available under Special A.R.D.A. for studies to examine opportunities for support services and manufacture.

We did have an application during the current extension of the Special A.R.D.A. for a pure prospecting enterprise and this was rejected as the only employment that would result from that kind of thing would be employment for the prospector himself.

There are no clear maximum levels on this assistance. Generally, projects over $1 million are referred to the N.E.D.P. (the Native Economic Development Program) and a colleague of mine is here to speak about that in a moment.

General guidelines are available through literature that's available at the back there. Joint ventures are also possible through Special A.R.D.A. although not in the mining industry currently. One example that comes to mind is the joint venture for the establishment of the Shehtah Drilling Company which took part in the Norman Wells Oilfield Expansion.

Patrick Scott mentioned previously that he was wondering about some of the benefits which can arise from joint venturing and clearly, in the case of Shehtah Drilling, and in parallel developments that are possible under Special A.R.D.A., they do provide an opportunity for the establishment of an ongoing enterprise which is a linch pin for the provision of Special A.R.D.A. assistance. This provides an opportunity as well for managerial training, employment and skill development that will continue after the life of the enterprise.

Diamond drilling was mentioned here recently. There is provision for the establishment of services which will continue long after, well, potentially, after the life of the extraction of an individual resource and will, as Mr. Nutter said, reduce the actual capital outlay that is required by the company at the time. So there are definite benefits to the community through joint venturing which are possible through Special A.R.D.A. and the N.E.D.P.

We are also a partner in the Domestic Market Development Sub-agreement of the E.D.A. which provides assistance similar to Special A.R.D.A., but at lower levels. Recently, there was an application, unfortunately E.D.A. expires in around 11 days from now, but there are discussions that are proceeding favourably right now for the replacement of this program and it seems likely that if this program is replaced, then guidelines for the assistance of mineral exploration firm establishment will also carry over to the next agreement.

There was a bit of contention over this recently and, well, normally, 90% of the funding for examination of this kind of an opportunity would be available under the E.D.A. Mining is a special case as far as the present sub-agreement is concerned and a higher risk factor is involved, so the levels of assistance were less and will likely be less under any subsequent sub-agreement.

Nationally, we have programs in support of manufacturing and processing but, again, this doesn't extend to mining. The only true advice I can give on the I.R.D.P. (the Industrial & Regional Development Program) is that assistance is available for the establishment of manufacturing and processing industries, but not for the processing of mineral extracts and that any person considering I.R.D.P. for a mineral based activity should first consult our office to get a reading on where they fit into the guidelines in general.

Investment prospecting internationally is another one of our activities where we represent the Department of External Affairs in the regions of Canada and, on the basis of hard investment prospect proposals, can poll investment development officers who have contacts in seven definite centres around the world and 33 posts around the world, and they will generally just take your proposal to investment houses in their localities looking for joint venture partners or investment capital. It's a service that's being utilized increasingly in Canada and we hope to see something from around here.

DRIE also offers a number of unfunded programs and services including the Information on Technology Transfer, Information on International and National Technological Developments, data searches, contacts with foreign suppliers of technology and equipment, current information on import and exports of Canadian goods and services. And that's generally it. Thank you.

NATIVE ECONOMIC DEVELOPMENT PROGRAM

J. Williams
Native Economic Development Program

D. NUTTER: Thank you very much Craig. We'll wrap up this section with our fourth speaker who is Jim Williams. Jim's with the Native Economic Develoment Program, I believe out of Ottawa.

J. WILLIAMS: Good afternoon, ladies and gentlemen. During my remarks today I'd like to give an overview of the Native Economic Development Program and what it means or could mean to the potential activity in the mining sector.

I'm sure many of you are aware that the NEDP's purpose is to foster economic development within the native community and therefore assist in native self-reliance. It does this in a unique way, in conjunctin with the Native Economic Development Board, which is our governing body. It is composed of 20 members, mostly native people, and they are all appointed by Order in Council for a two year term.

The NEDP Board's role is to advise the Minister of State for Small Business and Tourism on which proposals to the program merit direct financial assistance. The Board also provides advice to the government on how federal programs can be improved to support native economic and business development. The program is also unique in that it is open to all Metis, Inuit, status and non-status Indians and is offered throughout Canada.

No other native oriented economic development program operates in this way, so close to its clients and so much influenced by their advice. This proximity to our customers, we believe, is very effective in improving service and the scope and nature of the program. In this regard, last Thursday, the Hon. Bernard Valcourt, Minister of State for Small Business and Tourism, reponsible for DRIE's native and economic programs, made a number of announcements dealing with changes to the N.E.D.P. to demonstrate how the program is working to achieve excellence in fostering native economic self-reliance.

These changes were all designed to make the N.E.D.P. more accessible and relevant to its clients and thus more effective in supporting viable native projects. Of pre-eminent importance in the improvements is the new ability of N.E.D.P. to assist viable native primary resource enterprises. This sector of the native economy has vast potential and requires support from the N.E.D.P. in order to develop the possibilities which await.

The original policy of the N.E.D.P. was not to support primary resource activity, but that clearly did not address the needs of the programs' customers. Now, thanks to the vocal and determined native community, this new policy has been adopted to ensure the program is more relevant to native people.

There will be equity requirements for the primary resource projects. At the present time, at least 10% of a project must be contributed to the enterprise by the applicant and, in addition, there will be limits on the funding. Funds of up to $100,000 per individual, and $200,000 for a venture with more than one native owner will be available. We at the program believe that this will ensure fairness in the distribution of program funds and result in the best and most viable projects coming forward for assistance.

In addition, under the changes to the N.E.D.P., access to the program will be simplified. We've developed a set of new application forms which will be available shortly for the small business applicants, and this is intended to speed and standardize the approach to the program.

Another change that was announced by the Minister last week was the extension of the date for the receipt of applications to the N.E.D.P. by one more year. This is, we will be able to receive applications up to March, 1989. This change is significant since it will clearly enable native people to take advantage of these improvements and also to assure that all of N.E.D.P.'s original $345 million allocation will be committed.

These changes are significant for people like yourselves who are interested in mining. It is not that the new eligibility of primary resource activity will be of immediate effect in this field. The maximum levels of assistance are, of course, too small to start a mine. But the nature of the program has shifted to focus on assisting the client in the most effective and efficient way possible to promote viable business, including financial and economic institutions and community based economic development.

We at the N.E.D.P. are in the business of assisting native businesses and are business-like in our approach. That means that better service, including faster turn around time for applications and better product lines, to serve your needs.

In mining, of course, there are a vast array of business opportunities in the enterprises which process raw material, transport to it and service the mine sites. The N.E.D.P. can be relevant in all of these service areas. We are encouraging native people, both as individuals and community groups, to look for entrepreneurial opportunities in these areas and seek assistance from us to develop viable business activities, creating jobs and wealth for native people.

The key is not money alone. It is also having sound, realistic ideas for business ventures and then applying the entrepreneurial skills to develop these ideas into proposals which can withstand the test of commercial viability. The challenge in this area is one for our customers, you the people in the mining industry. We at the N.E.D.P. are ready to assist you, but you are the ones who will have to lead the way.

Discussion:

D. NUTTER: Thanks very much Jim. Jim, since you are the final speaker, I'll ask you to stay up front here with me, but I think looking around the table, Doug Alley is sitting on this side and Craig is at the end and perhaps, Phil, if you could sit up at the end by Gilles there and I now open the floor to any questions or comments from anybody else around the table or from the back you wish to raise. Yes.

COMMENT: I have a comment or maybe a recommendation here that what we should probably try and do at this stage is, from what the last speaker just spoke about, was maybe implement a pilot project with Ghost Lake Resources, as one for an example, and Lands Resources from the Yellowknife B Band. You know, I would listen to any recommendations that Indian Minerals West may have on this in respect to joint ventures or some help from Indian Affairs Department.

D. ALLEY: I'm not sure what the question is. You are asking for what type of support here?

COMMENT: Yes, I'm just wondering if you could implement some kind of a pilot project to what the last speakers have just spoken about, in the way that you can assist the native people up here in doing further exploration work in the mining sector.

D. ALLEY: Maybe Gilles can answer that. Go ahead.

G. PATENAUDE: Doug, we in the North, are not familiar with your program. I think most of us, well I did, but I think most people didn't know that Indian & Inuit Affairs had a program that would support mineral activities, so most of us don't know that our own program is doing this, so we want to know exactly what the Indian & Inuit Affairs programs can do for the native population here. Are you willing to work with them to see if you can develop some projects to go into exploration activities, or prospecting, or, in other words, I presume you are going to be willing after this to start discussions with some of the interested native corporations to see what areas they could be looking into. Can you comment on that?

D. ALLEY: Going back to Bob Shank's posters and his talk yesterday, our niche I think is in the early phases or the exploration for, or searching for economic mineral deposits, and we are certainly willing to provide technical assistance to any native group, based on that B.C.R. I mentioned, who is interested in this kind of thing. My Director assured me he is going to look at these proposals on a case by case basis and those that are most meritorious are going to get our attention. And our goals now, having shifted from reserves and trusts into the economic development sector, is to do just that, develop the economic mineral potential of either the Indian reserves in the South or help Indian development corporations in the North develop the mineral potential of areas in which they are interested.

Clearly we have some overlap with Bill Padgham's shop, he being the man and his group of geologists being on the spot here. I think they can provide a great deal of service here, but a site specific study or possibly some workshops or training, if that's what's required, and certainly we would be willing to participate in that.

COMMENT: If I could just for a minute. One of the situations that I've seen arise in trying to assist a couple of clients with their dreams of mineral exploration, is the problem of actually extracting samples to establish the viability of a claim or the potential for a claim. In talking with Doug, they are quite prepared, from a technical point of view, to take a look at the geographical maps, aerial survey maps, assist with mineral analysis, again, but as Doug mentioned earlier, the dollars required to actually drill samples or blast out samples is an area where we seem to get hung up.

Because it does cost money, I'm wondering what the options are here because I've already said that we are prepared to act as a liaison office or a facilitating agency in bringing the client together with whoever can assist them in their development, but this seems to be one area where we have a problem and can anybody address how that can be dealt with?

D. NUTTER: Jim, do you see any role for N.E.D.P. in this area?

J. WILLIAMS: Unfortunately you have me at a slight disadvantage because of the announcement, just the very recent announcement, and I don't think that, we haven't ironed out a lot of the wrinkles in the program delivery and what criterion we are going to use in assessing some of our proposals, but certainly, and this specific problem I'm not sure whether we can address or not. Certainly it was the intention of this particular part of our program to assist people in development activities and we have provided in the past consulting services. This specific problem of collecting core samples and anything is not something that we have addressed, but certainly I'll take it back to our Department and pose some of these problems to see whether there is room within our program to assist people in this area.

P. LEE: I guess the bottom line for Alex here is that, you know there certainly is potential whether it be a test study or whether that's an appropriate term to use, but I think if through the process of analysis of existing samples and the technical support that can be provided by an agency such as Indian Minerals West, if it can be determined that an area has potential, then I would think that there might be an opportunity to do something. But the problem all federal, territorial agencies face is putting hard money on the table to explore a given site without having first established that it has some potential. So I think that would be the key thing, to first establish that there is some potential there and then from there, whether it happens to be through a band corporation or through a combined joint venture, to go after the hard money to develop it or to explore that potential further. Hopefully between the various organizations sitting at this table that, if that opportunity arose, we'd be able to deal with it because it is the hang-up that they face, particularly up here.

D. NUTTER: Thanks very much Phil. Does it help you at all?

ANSWER: It answers the better part of my question. Yes it does answer my question. I would like to sit with these gentlemen later on sometime before they leave and maybe discuss the possibilities of pursuing this venture a little further.

D. NUTTER: Well I think all of them would say that they are here for the purpose of helping people like yourself, so I don't think it would be a problem.

COMMENT: Well it's an opportune time and I'd like to take advantage of their expertise here now.

D. NUTTER: Any other questions? Yes.

J. DAY: John Day, Bosworth. I decided to direct my question to Phil and Craig and Jim. What kind of monies or funds are availble in terms of developing tourism? The reason why I'm asking is that I'm in the process of making a proposal to develop the Canol Heritage Concept in Norman Wells which is the old pipeline in the war period, I guess. And the main concern there is for recreational activities, in terms of outdoor activity - camping and hiking, natural - in terms of scenes and wildlife and also as an historical understanding and appreciation. I just want to maybe talk to you maybe later on. I don't know where to go for funding of that particular development.

J. WILLIAMS: Maybe I'm being a bit presumptuous here. John, it's nice to see you again. I haven't seen you for a while, I didn't recognize you sitting at the table there. I think in terms of developing a proposal, obviously tourism is a high visibility issue in the Territories now and a lot of effort is being directed towards expanding that market. We have an officer in place in Norman Wells right now working through the Regional Council, Lee Wilmott, and I think if you were to talk to Lee in terms of putting together, you know, putting your concept on paper and then presenting it to our office, whether it was ourselves or one of the other agencies, I'm sure that'd we'd be able to have a close look at it and just determine where you should be going to get the development funds for it. But certainly the resource people are there in the Wells and we should be able to sit down and deal with that issue.

D. NUTTER: Yes. I think, John, that that particular issue is a little outside the context of mining but again, as Phil has said, there certainly are people available to assist you in that area.

J. DAY: I'd like to also get my toes into every sort of funding.

B. NUTTER: Any other questions or comments. Raymond.

R. BEAVER: One of the things I'd like to know is most of the people here have been talking about support for economic development, but we don't have any mines or anything like that around Fort Smith. But it seems with other things we'd like to do we always get the same answer from Economic Development, Government of Northwest Territories or Indian Affairs, is that we don't have the expertise and we admit we don't have the expertise but we cannot get also the money to hire the expertise from any one department, either Indian Affairs or Government of NWT.

Even though the band would like to get into businesses, either mining or anything else, we just can't hire the expertise because the money that we might be able to get from Indian Affairs, which no one with that kind of knowledge would work for that kind of money, so in my area we are pretty strapped for getting economic development. Like I mentioned there are no mines around Fort Smith. But somewhere along the long, economic development people would have to get together and be able to provide us in Smith or any other bands with the money to be able to hire the expertise to look into all phases of any industry or whatever we want to get into. And like I said, no one is going to work for $20,000 a year or whatever. We've got to have someone there at all times to work for the development corporation. We can't have him working like I said for $20,000 a year, we'd have to have someone, if he's any good at the work that he's doing, he'd be worth quite a bit more than that.

J. WILLIAMS: I guess I can address that situation from the N.E.D.P.'s point of view. Certainly we have room within our program to entertain a proposal from groups that are looking for management expertise. We have funds available that could assist you to hire a consultant to identify and explore some of these ideas that you have for the Fort Smith area to determine whether they could be commercially viable or that they could be developed and, beyond that point, if a consultant were to identify certain prospects (and I say prospects in the much broader sense, not just in the mining sense), that's what our program is all about, assisting communities like Fort Smith. In fact, I think one of the residents of Fort Smith is one of our board members and she would certainly be able to provide you with how to input into our program, and certainly I am available to help you as well. So there is room in our program to assist you with that type of a situation.

D. NUTTER: I think as well, and it's unfortunate that he was not able to stay, but Allan Vaughan, on behalf of the Department of Economic Development & Tourism, well, it's unfortunate he is not here now to respond to that. I'm an observer to this process and so while I appreciate your problem, I myself do not have any answers for you but it would seem to me that there should be answers, both as we've just heard from N.E.D.P. but also within the GNWT. There should be a mechanism in place and from what I've heard this afternoon, I would have assumed there was a mechanism in place to assist you.

R. BEAVER: Well there is, but it's pretty cheap wages you have to work for it. I don't think any one of you people here with any expertise would work for that kind of wages.

D. NUTTER: Well, perhaps it's something we could take away from this meeting. Mr. Butters started off this meeting by stating that he wanted to hear from us at the end of it, both our concerns but also some advice from this group to him and his government as to how they can better serve the native community in getting involved in the industry and this is a point we can make. Craig.

C. YEO: Under two, actually under two existing programs, the E.D.A., as I mentioned shortly expires, but there has been a fully subscribed community-based economic development planning element under the present sub-agreement which is proposed for renewal under the upcoming sub-agreement, which was providing 100% of the funding for the hiring of economic planners for, I think 27 communities in the last sub-agreement, and provision for funding for a good proportion of the remaining communities in the Northwest Territories which don't have up-to-date economic plans.

Regarding specific economic opportunities for the development of, apart from mining I'm afraid to say, but other business opportunities although business opportunities in support of mining such as service industries, funding is available under Special A.R.D.A. and under the current Economic Development Agreement and under the proposed Economic Development Agreement for up to 90% of the cost of studying these opportunities. And that would include the striking of a complete management and business plan, financial and operating plan, and under Special A.R.D.A., in extraordinary circumstances, their attention of managerial help for the first part of the program. So the funding is available. There is an equity requirement, but 90% is a pretty generous proportion of the actual total cost.

In regards specifically perhaps for the mining industry, I could mention again that under the present sub-agreement and under the proposed sub-agreement, while there isn't (you were mentioning Ghost Lake) provision for actual exploration of the property, there is one project which was funded and received professional and technical advice on business establishment and structuring for a mineral development firm, assistance for the evaluation intended to establish the desirability of acquiring legal interest in the mineral rights of an existing property, and assistance in the direct marketing of mineral products. Only 50% of that total project cost was covered, but it did provide the capacity for acquisition, some pretty professional and I'd say high priced advice as well.

D. NUTTER: Thanks very much Craig. I think in the interest of not falling too far behind we should move on to our next speaker, so I want to thank the past four speakers and Jim for sitting up here with me at the end.

EDUCATION AND TRAINING

B. Carr and G. Norber
Education, GNWT

D. NUTTER: The last speaker in this section is Brian Carr who is with the Department of Education in the Territorial Government. Is Brian here? Both of you are. There are two chairs up here beside me. You are both welcome to come up.

B. CARR: Thank you very much. Really Gordon is the listed speaker for today and for this session and I'm going to turn it over to him very quickly. But I asked if I could come along and build a little bit more on what he was saying this morning just before lunch on this question of employment, fly in, fly out worker. I just want to build on it and probably give a little bit of a clearer picture of where we think we are coming from on this whole question, and it's not intended to give you a history lesson of any kind but there are examples I think that are very important and have lead us to where we are today.

Where I would like to start way back about 20 years ago, when in 1967 the Government of the Northwest Territories loaded itself into planes and actually flew north and just dumped itself in Yellowknife and became a presence in the Northwest Territories. And from that very small but significant step, we've come to the point where we have a native government leader and a majority of native people in the Legislative Assembly and three native deputy ministers in government. And I think I could bet a nickel to a pound of galena that if that move and that presence hadn't been made in 1967, we would not have had a native person or a northerner in any Government of the Northwest Territories located in Ottawa.

And from there, I'd like to build a couple more examples. The D.E.W. Line is coming to a close, the existing concept of the D.E.W. Line, with the introduction of the North Warning System. Now that D.E.W. Line had a participation rate of Canadian labour of around 96%, but it had a participation rate of northern native labour of around 1%. And the biggest drawback to that, apart from the fact that the whole contract for the D.E.W. Line maintenance was a United State Air Force contract and had some limitations built in regarding training, but a big barrier to northern employment on the D.E.W. Line site was not so much skills and training or a will to have northerners employed, it was a simple matter of logistics and that was that all of the jobs on the D.E.W. Line were really in Winnipeg. And the hiring hall for all those jobs on the D.E.W. Line was Winnipeg, from the International Brotherhood of Electrical Workers. So if a northerner wanted a job on the D.E.W. Line, he had to get up off his ass and buy a house in Winnipeg because that's where the plane flew from.

Another example is the recently completed expansion at Norman Wells. When I started talking to unions about what they were going to do for northern labour surrounding that project, because that was a union project, I went down to Alberta and I sat and met with union people who called themselves The Alberta and Northwest Territories District of Mackenzie Building Construction Association. And I said, "Where do you get off by having a Northwest Territories brass plate on an office door in Edmonton?" And the answer was, "Well, we get our jurisdiction from our international parent and we get confirmation of that and recognition from the Canadian Labour Relations Board and this is our office and we hire for the North right here." And, again, if a person wanted to get a job in Norman Wells, the concept was present yourself at the hiring hall and you'll get a job in Norman Wells.

The only big union really that did anything I thought was significant was, and I don't want to praise unions, especially when we were told this morning that there's a personal feeling about union involvement in mining, but the only significant what I think were moves and dispensations made were from the International Brotherhood of Labourers and they had an office in Yellowknife. They hired and dispatched people to the pipeline right out of Yellowknife. Over 1,000 people went through that office.

Trying to close up on this and be very quick, the recent D.E.W. Line conversion is a North Warning System and we've been able to negotiate the fact that the rotation centres and distribution centres for the communications contract and maintenance of that line up until 1992 will all be in the North. There will be no planes flying over the Northwest Territories landing in Edmonton or Winnipeg or Montreal or Vancouver. Those rotation sites, those people who maintain that line will live in Inuvik, Cambridge Bay, Hall Beach, and so on. They will all live in northern rotation centres.

And I think the big point we were trying to make this morning about the Lupin Property, and I was very interested in everything that gentleman said and I know Doug. I've spoken to him over the phone and met him a couple of times, but you know, really, those jobs are not at Lupin at all. Those jobs are in Edmonton because the workers, they bring up their children, they buy their groceries, their refrigerators and their cars in Edmonton, and they pay their taxes to Alberta. And really that 737 should fly maybe out of Yellowknife or Hay River or Pine Point. It shouldn't fly out of Edmonton at all. And it's the spinoff benefits, and what we are saying is, right now, let's not hone in on the lack of training, the lack of technical expertise, the lack of preparedness, the lack of academic levels of northerners - native or otherwise - let's just say something simple like, "If you are prepared to work and extract the resources of the Northwest Territories, you should be prepared to live here, sleep here, pay taxes here, and call this your home". And eventually, we will get a shot at all of those jobs if they are here, but we'll never get a chance at training anybody for them or having anybody in them if they are in Edmonton or some other southern city.

Now we can't do this overnight. We are not expecting John Zigarlick to all of a sudden start doing that because I recognize, as everyone else does, that he cannot say to his board of directors and his shareholders, "Look what I've just done boys, I've got a real good corporate image with the Government of the Northwest Territories, we are now flying out of Yellowknife, and all those jobs are there and we are paying our taxes there". The bad news is our profits go down half a million dollars next year because of it. So obviously there is a bottom line, and especially in the mining industry, of profit and loss.

So what we have proposed and our ministers agreed, ministers being the Minister of Eduation, Economic Development & Tourism, is to study this question of fly-in, fly-out workers, what it would mean to have that changed around, what the economic and social impacts of it all are, who benefits, who losses, and what interventions should be made by various levels of government; federal, territorial, maybe even municipal. If the Municipality of Yellowknife is going to benefit by having the population dramatically increase from say 11,000 to 13,000 or 12,000. So we are going to do that study, but the message is clear - leading from that 1967 experience of a commitment to have a presence in the North, and I think it's very important.

I hope I didn't bore you with all that and I hope you didn't think I was preaching to you but it is a significant thing that we've just recognized and I thought I'd like to take this opportunity to build on what Gordon was saying this morning. I'm going to sit here while Gordon does his thing. He's very keen to outline to you what we think we've got to offer in some training in the mining industry.

G. NORBER: I've just been advised to keep it short. I'd like to just, Brian has covered a lot of the area that I wanted to, so let me just cover a number of programs that are in place to effect increased northern employment by all sectors of industry, not just mining.

We have in place, as well as C.E.I.C., what we call a T.O.J. Program, Training On The Job, or On The Job Training, and it's a subsidy program available to basically private industry, and the smaller industries more so, but really as an inducement first of all to hire northern or native, and secondly to give the employee or the trainee an opportunity to see what the working environment is like. Also, for the employer to have a look at "the native employee". That program has been in existence for some time. It's expanding at quite a rapid rate, and I'm not sure if we should give out our budget on this, but the money going into that program has dramatically increased over the last year.

The second program that is very similar to it and addresses the apprenticeship side, it's similar in nature but, again, with a subsidy component, in trying to get the northern labour force developed in the trades area. Again, it's a wage subsidy program coupled with the full payment by government when it comes to the technical training side. We really have two levels of funding in that particular program.

The first level of subsidy is for northern residents and for those of you who don't know, we define a northern resident as living in the Northwest Territories for a minimum of one year, possesses an NWT Health Care Card, and declares the NWT as the place of residence for Income Tax purposes.

The second level which is higher in terms of subsidy to the employer, is intended for the Affirmative Action side of government, for native, women and disabled. So if you were to hire in one of those groups, the level of subsidy would be increased.

The second thing we mentioned earlier this morning, that Arctic College is in the planning stages of developing some sort of mining course and I alluded to the fact that we would like to take direction from this group, taking more or less a four corner approach, from industry, from the organizations, from government and from Arctic College. Hopefully we can get that particular program in place (I can't give a time table on it), the sooner I would say the better.

I think the last thing I want to cover is the position of the G.N.W.T. on employment and training as it affects really everybody. The approach that we are taking, especially with new development in the NWT and especially with the North Warning System, number one of that position is that the G.N.W.T. or the residents of the North be given the right of first refusal on any job on any development for the immediate area affected and for the N.W.T. as a whole. That given the time for development, especially the North Warning and passed on to the mining development, with the lead time we have in a lot of the development of mines, provision of labour demand schedules from developers so that we can plan ahead of time for your manpower requirements, and putting into place training programs to address your manpower requirements.

Number two - that all off site training be done through the Arctic Collete system and that Arctic College be given the right of first refusal to deliver any off site training.

And the third point is the establishment of corporate presence in the N.W.T., establishment of rotation centres in the N.W.T., and the establishment of material distribution centres in the Northwest Territories.

I think those are fairly self-explanatory. I might make a note here, Brian alluded to the North Warning System and the Northern Benefits Section that we've negotiated with the Feds. There is a very important point in there that I would just like to bring up to you, is the fact that all bidders will be required to show where they cannot hire northern or buy northern how they propose to transfer that technology or manpower to the North. Those are things that I think you should keep in mind as an industry. Somebody alluded to the fact that you are a pretty conservative bunch but that conservatism will have to go by the wayside so that we all live happily ever after the N.W.T. We will work together, eat together, sleep together, whatever else. Thank you.

Discussion:

D. NUTTER: Thank you very much Brian and Gordon. There are certainly a number of points raised here which are cause for thought and strong consideration by the mining industry, but I'd be interested in hearing either some questions or reactions, not just from mining representatives around the table, but also from native organization representatives as well. If we could start off.

R. AITKIN: Robin Aitkin for the Dene/Metis Secretariat. For this mining course, are you planning a co-op type of course or would it just be straight schooling and then going on the job?

B. CARR: I think that the answer to that question is that the training will be open ended. We will not target on one particular kind of training. It could be a combination of all the kinds of training we have tried in the past, from pre-employment to block release, to day release, to technical training, it could be anything. It's for the industry who want these workers trained to tell us the targets and the best way to do it, and for the Arctic College to say if they can deliver, and for the native associations to tell us exactly what is best for them from their perspective, whether they want to have the training done as much as possible within a community or whatever. We haven't made our minds up on that at all yet.

R. AITKIN: It's good to get the schooling and the job experience at the same time because then if the person doesn't want to go into the mining field after that some experience to go on into another field but I know it's directed towards mining.

D. NUTTER: Yes, anybody else care to respond?

QUESTION: I want to know if it would be possible to get into Arctic College, well I'm from Fort Smith. In just talking to some of the people here, like I would be interested in a little short course on prospecting because I trap and I also do some firefighting all over the country east of Fort Smith, especially on gold because to me a rock is a rock. It doesn't make any difference what colour it is. So I'd be interested to take a little course on prospecting if it would be possible.

B. CARR: Well thank you. The thing that I know about prospecting is about as much as you do too, but I do know that two courses have been offered. One has been offered from time to time by the Chamber. It's a private course and I think it runs from around $90 to $120. It's a pretty intensive course. It runs for about 12 weeks as I understand and that's been done through the Chamber. And at the same time, Arctic College has run a number of prospecting courses and I can't tell you now just which ones they are going to run and where in the next school year, but they have those courses available.

D. NUTTER: If I can also add a supplement to that. The Department of Indian Affairs and Northern Development, Northern Affairs Program, Bill Padgham's office has run prospecting courses in the communities as well. I don't see him in the audience now, but one of the geologists, Walter Gibbins, has gone out to a number of communities over the years giving prospecting courses, so they've done this on their own and then co-operatively through the Chamber we have run joint courses. So there are, where it breaks down is there have not been any courses given for several years now but I think the time is right and as Allan Vaughan mentioned in his introductory talk this afternoon, the Territorial Government would like to work with the Chamber and I think all three; the two levels of government, plus the mining industry, should be able to get together and develop some new programs in this area.

G. SMITH: Gordon Smith from the Aklavik Development Corporation. If I understand you correctly, you are attempting to get some information in relationship to the types of skills or jobs that will be available from the North Warning System. Having said that, or you people alluded to that, how soon will this information be available and how do you expect to disseminate that to the smaller communities aside from Yellowknife?

G. NORBER: We have in place at this time a field staff which covers the N.W.T. and particularly the Inuvik Region. Out of all the regions in the N.W.T., it has the best coverage through what we call the Community Employment Officer Program.

G. SMITH: Could I ask a subsequent question? How soon will that information be available?

G. NORBER: It's, the O & M contract, maybe I'll just back up a little bit. The O & M contract for the North Warning is to be awarded in January, 1988. Up until that time, we really don't know, because of the structure of the bidders, the type of labour demands that they are going to want. We have a fairly good idea of what they want and we'll be working with Arctic College to set up a program. We are in negotiations at this time to transfer all the electronics training for the North Warning north, particularly to Fort Smith. We are, at this time, training nine technicians in Fort Smith that will be working with NorthwesTel on the North Warning to be place in Inuvik and Cambridge Bay the summer of '88. It's starting.

The request for proposals on the North Warning just went out about a month ago. It's going to be a long, hot summer for us and for the Feds in going through the proposals. Once it's awarded then our work really starts so that we know what the company wants and where.

D. NUTTER: First, Bill Padgham.

B. PADGHAM: Thanks Dave. I wanted to say a few words about prospectors and prospectors' training. Training should result in a lot of prospectors out there. Where are they? I think there is a problem with incentives for prospectors. The native prospector particularly has great difficulty in translating a find into something that provides mocassins for his children and bullets for his moose gun.

I think it's very significant to solve this problem because in a recent study the B.C. Geological Survey did on discoveries in British Columbia, they found to their surprise that 60% of all the prospects that are now being developed, some of which will become mines, that 60% of all of those prospects were actually found by prospectors. People may not be aware of the fact that throughout Canada most of the significant discoveries, the initial discoveries, that have resulted in producing mines have been made by prospectors.

So if we can get more prospectors, particularly native prospectors out there, I think we would develop a vehicle for more involvement by native development corporations and similar organizations in joint venturing, in developing, and in ultimately being partners in mining operations.

D. NUTTER: I saw a couple more here, Doug Leonard and then Doug Willy.

D. LEONARD: Okay, I was just wondering whether you've looked at the aspects of say setting up a diamond drilling course here in the North?

B. CARR: No, I can't answer that one. I know there is a lot of diamond drilling activity and we've not set up a course in the North in the past, but with our colleagues in this game, Canada Employment & Immigration Commission, we've been sending spordically those people interested to Southern Alberta, not only to do the diamond drilling course but the seismic blasting course. There are two courses run down there and we've been working with C.E.I.C. to send northerners to that course. It's a matter of demand as well as supply and if there isn't the demand for that kind of course then the economy of scale tells us that we can't establish it in the North, especially if the equipment and instructors are expensive. So we've been buying it from Southern Canada.

D. LEONARD: The other thing I was wondering about too. At one time there was a claim staking and line cutting course that was offered. I think it was conducted at the old Discovery Mine site. Is there any look at doing that in the future again?

G. NORBER: I think it's something that could be taken into account when Arctic College is putting this course together, all the elements that were alluded to by, I'm sorry I forgot the gentleman's name from yesterday, right from the exploration side to the production side. Obviously that's an expensive proposition, but it's something that we would take direction from, and when I'm saying "we" here, we're kind of wearing a couple of hats here for Arctic College since they are not here. But they would take into account all the requirements of "the mining industry".

D. WILLY: Those are exactly the type of things I was trying to get at this morning and I think that regardless of where we have to have our employees live, whether it's Yellowknife or whatever, it doesn't make any difference to the people of the North. We can hire heavy duty mechanics and say you have to live in Yellowknife. But how is that going to benefit the Band Council from Detah? Coppermine teachers have had to live in Coppermine since there was a school. How many teachers are there in the school who are from Coppermine? So what does where a person lives have to do with getting themselves in a position to get hired in the mining industry? You know, that's what we are looking at, not where a person lives. What do we have to do to get in a situation to take over the jobs that we are hiring people from the South for?

And I think by saying that we have to have people living in Yellowknife isn't going to solve any problems at all, none whatsoever! It's very easy, if you are living in Red Deer, to drive for an hour to get to Edmonton, and it would cost you $20 worth of gas, and get on your airplane and get into Lupin. It's a hell of a lot different if you are living in Aklavik and having to get to Yellowknife, for $800.

ANSWER: We don't care.

D. NORBER: We care! That's the point, for northerners to access those jobs at this point. You were telling us this morning that outside of Coppermine and outside of Yellowknife you can't hire because you have no way of getting them there. This is the point. It's easy for somebody around Edmonton, or for that matter if you live in Saskatchewan a four or five hour drive to get to Edmonton, to get on your plane or whoever's airplane, or in the case of the D.E.W. Line to get to Winnipeg to get on a free flight. It's quite a different story even to get from Cambridge Bay to Coppermine, that's quite an expense.

D. WILLY: But that's not what you are saying. What I heard Mr. Carr say was the idea is to have the company based out of one of these towns and therefore we'd have to have our employees living in those particular towns. You know that isn't the point. We can't hire these people. You show me a mining engineer unemployed in the Northwest Territories, or where do you look for an electrical engineer. You know, that's the point.

B. CARR: It could get pretty emotional if you start banging that ball backwards and forwards, but I heard you this morning saying that you get 200 applications from lots of qualified people a week. Now, if you're hiring and your personnel and your plane was not in Edmonton but in Yellowknife, those applications I'm sure would still come to Yellowknife and you'd be able to find them. And eventually, a northerner might be attracted to train for that job out of Yellowknife and live in Yellowknife, or it may not be too difficult for a person to get from Fort Providence to Yellowknife once every two weeks and a Fort Providence person might think it's exciting because the job is in Yellowknife in Lupin.

But at the present time, I feel that the presence of all of those workers, not just me, my Minister feels the presence of those workers, is a barrier to employment at Lupin Mine. The presence of them in Edmonton rather than Yellowknife. And we've had lots and lots of examples where just having a presence in Yellowknife just about force feeds the northerner and the native person into those jobs, because he can't access them when they are in for instance in Winnipeg for the D.E.W. Line. We had three native northerners working on the D.E.W. Line. They were a janitor and a couple of heavy equipment operators.

D. WILLY: Okay, then following along that reason, we should assume then that probably 90% of the employees at Con and Giant are native northerners.

B. CARR: No, I'm not saying that at all. What I'm saying is that probably 90% of the business that Giant and Con do is around Yellowknife and that the workers buy their groceries from a Yellowknife firm and it's the small business and supply sector, the service sector that is built up, and maybe a native person will never work at Lupin even if those jobs are in Yellowknife. But a native person might work in a garage to service the car that that worker drives, and a native person will become a teacher to teach the kids that person has in Yellowknife. It's just a general spread of the dollar in the North rather than in Edmonton because Edmonton is getting all the benefit of that $20 million payroll you have.

D. BERGEN: Dennis Bergen from Polaris. As a person whose livelihood is in mining, I just wanted to make one comment. We had the fact that we were of a conservative nature thrown back in our face and I'd just like to point out that we've sat here and listened first off, some talk on the risks involved in mining, went on to factors such as the environment, social factors, government regulations and we finally admitted something that shouldn't be a dirty word - we also have to see a profit at the bottom. We've also heard that mining companies are innovative and trying. And I think the regulations, such as some I have seen here that would say, "Immediately, the corporate presence in the Northwest Territories, first refusal on people". Those are not going to necessarily help mining, they are going to drive mining right out.

And if we use those on a project such as North Warning, I don't disagree with them, but we better be aware that we are using our taxpayers money to generate them and in the future they may have good results. But don't kid yourself, we are using our tax dollars to get that and on a project such as North Warning which we have said is something that we as a country need, then we may get more benefits.

If we were to try and impose that immediately on private industry which doesn't have the resource that the government has to spend money, we'll drive those industries right out of here and I think that that's something people should be aware of, that bottom line to a mining company is essential to its existence.

G. NORBER: To any business it's essential, but you've answered your own question. Earlier you alluded to the fact that you have 72 hours for filling in the North.

D. BERGEN: We post for 72 hours.

G. NORBER: That's all we're saying, as a part of the position of the government. What's wrong with that? I mean you've answered your own question.

D. BERGEN: Oh no, no. Your, if you wish, policy proposals, are considerably stronger than that and my comment is those will scare people right away.

G. NORBER: Why would we scare you away if we said we want the jobs for us and if we can't fill them, you can hire wherever the hell you want. Why would that scare you?

D. BERGEN: Maybe that's not what I heard you say when you said it then.

G. NORBER: It's pretty clear.

B. CARR: Right of first refusal is what we're asking for actually and we are asking for people to consider a presence in the North and we are asking for right of first refusal of training for the Arctic College. You know the Arctic College two years ago was one campus in Fort Smith. We now have a campus in Iqualuit and we have the Forces Base in Inuvik and we are planning three more; one in Rankin Inlet, one in Cambridge Bay and one in Yellowknife. But in order for us to do that, we have to have a commitment to deliver the training here to give that college a force feeding. You know old John Dieffenbaker's Road to Resources, it went good for Saskatchewan, why can't it be good here? You have to force feed those kind of ideas and I think we are on the right track. I know it's going to be difficult. I know it's going to require a lot of push, pull, tug and argument. And you are probably quite right, we will be scaring people away, but people have been scared up here for a long time too.

D. BERGEN: I don't think you have to worry about scaring the people away as much as my point is, scaring the industry away. That is strictly a point that I wanted to make there, that the industry faces numerous risks from just trying to find an orebody through getting it into production and that's where the conservative nature comes in, and I just throw that out as a statement and a caution not as a "Don't do it", that's all.

G. NORBER: Don't think that we are trying to impose this on you. It may come out a little strong because we feel personally quite strong about it. It's been done in other industry. I don't see where the problem is in adapting it to the mining industry or any other industry for that matter.

COMMENT: Seems we are missing the main reason for this meeting and that's native participation. I support what Brian and Gordon are saying about the resources leaving this part of the country and not being able to reap the benefits from the mining industry. It seems we are leaving the natives out in the cold here again by remarks made by Dennis here. You know that's something that we have to address as well.

D. NUTTER: I think if I can speak, from what I heard from at least one of the speakers in this was Doug Willy several minutes ago, his point being as well that native people were being left out if the requirement is strictly, if they do it by a regulatory process which says, when I say they I shouldn't do it in an impersonal sense, but if the government were to impose requirements, essentially imposing northern residency as a requirement for a northern worker, that rather than having the effect of chasing the industry away it may have the effect of doubling the size of the population of Yellowknife, but it doubles the size of the population by virtually taking all the workers who are now at Lupin who happen to live across the country from Pacific to Atlantic in the South and they decide well this is the only job they can get so they will now live in Yellowknife to maintain that job, certainly that helps the local economy unquestionably. It helps the Territorial Government get some more revenue.

I don't think it helps the people that we are here yesterday and today to try and help, which is the native people. It does nothing (I'm speaking a little strongly myself), but I don't see that it does much to prepare northerners to take on those jobs and in fairness to Gordon here, this is one of the things that he has raised, is that we have to find ways of preparing northerners to fit into the job opportuntities, not the opportunities but the jobs, that are now being filled by skilled workers from outside the country. But at the same time, I believe I heard Doug Willy say the same thing, that if we can get the people in the North who have the skills, more of them, we (meaning not just one mine but the whole mining industry) will hire more and more northerners.

But what we are here to try and do yesterday and today is to find ways of preparing, in this case, native northerners. I would like to say all northerners, but really the theme of this two day meeting is native northerners and how to get them in some fashion, not just necessarily as workers, but in some fashion more closely aligned with resource development and, in this case, mining development. Yes, Raymond.

R. BEAVER: I would like to say with training, the Band in Smith about four years ago, identified that because of that dam (they were talking about that dam at that time), we had a study done and, of course, we found that the band members were only at average grade 7, I guess is what they had, so we tried to get the Department of Education, Employment & Immigration interested in our proposal. It was to do with training people for any jobs that might be coming up that, not to specialize in something that might not be around in a couple of years, but so they could fit into these jobs like even in the mining industry to get ready for that. But that never actually got off the ground. It went as far as the Minister's office and that's where it ended.

I'm glad to hear the Department of Education is trying to do that now. You know that any jobs that might be coming up to train the people for that, we recognized through the band there that the reason that people were getting workers from down South is that the people here don't have enough education, just don't qualify for the jobs, most of the jobs.

We figured that if we could put something together that most of the band members would be able to qualify for jobs other than straight labour and it never got off the ground with the Department of Education. Like I said, I'm glad it's starting to turn the other way around to make sure that the people will be educated for that. In the meantime, I think the industry still has to get the majority of the people from down South.

We notice because Arctic College is in Smith that we have enough truck drivers there to go for the next hundred years. That's all I have to say.

D. NUTTER: I see more and more hands going up as we go on with discussion. A couple of points to make here as my prerogative as moderator. Let's try to avoid going around in circles and restating a lot of things. I think a lot of us do understand the message. I don't want to cut off good comment but at the same time... I was going to say I thought what needed to be said has been said, but that's an unfair judgment on what other people would like to comment on but, on the other hand, we have made some pretty worthwhile comments around the table about getting natives involved and I think if people have some ideas, we would welcome that rather than complaints about the present system. There are about eight hands that I saw at the same time, but maybe we'll start back in the corner here.

R. GRIFFITH: Ray Griffith. I just wanted to direct this to Bill Padgham actually in regard to his prospector training program he had mentioned. I was wondering whether, he had mentioned it had been going on for about 15 years, and whether there had been some sort of systematic evaluation of the training program as to figure out why there isn't more participation in native prospecting and if there is some sort of follow up mechanisms or incentive programs that could be strengthened or look at developing the program so it will work.

B. PADGHAM: The answer to the first question is an unqualified no, and the answer to what incentive programs there are is almost a no. The only incentive programs that I know of or those generally available to any prospector were we will go and look at and evaluate showings and give advice and instructions in the field, when we are convinced that it is appropriate to do so. If a prospector brings in material that on assay suggests he has something that is worth spending the taxpayers' money to go and visit and evaluate, we'll do that. But there are no prospector's assistance programs presently running in the North.

R. GRIFFITH: Just one comment I wonder if I could make. It's good to hear the Department of Education is doing something in regards to training. Perhaps looking at what is happening in prospector training, if you could take a program and follow it through with the proper evaluations and delivery of a program with the end objective being native involvement in the particular field you are dealing with, to take a lesson from some of these training programs that have already happened and develop them, either develop them or let them go if they are not working, I mean it seems that something should be done to make them really effective for what they are supposed to be doing.

P. SCOTT: You were looking for some suggestions, Dave, and I'll try one on people and I'm a little bit hesitant but I'll try it anyways because I think Dennis and some of the industry representatives are probably going to say it's not realistic. What about a quota system with an Affirmative Action program? We heard yesterday that on the average we have 1% or 2% except in one mine that had a stable base of native employees at around 26%. Well if one mine can do it, why can't eight operating mines do it? Why not look at 20%? Why not look at 25% of native northerners becoming employees and set some objectives? Yes, there are costs involved but they can be factored in. Industry takes risks. Well this could be one of the risks that they could factor in into their overall costs of developing a mine. There's a suggestion.

ANSWER: I don't want to hog the meeting, but the idea of quotas has been around with us a long time and I don't see my friend Jim Marshall in the audience. Has he left? He should be able to tell you a lot about quotas because in that first agreement with that mine site, the Federal Government insisted on a quota being inserted into that agreement and that clause in the contract simply said that "After three years of the mine going into production, there will be a 60% native component in the work force at Nanisivik Mine". They have never come close. The most they have had is 26% I heard, but in my experience over the years it has been 20-22%.

And when anybody went into that mine from any kind of government, Territorial or Federal, they immediately honed in on the quota. Where's your

60%? And I'm sure that Marshall has had his ear full of "Where's your 60%?" on quotas, from everything from reduce the ore production, don't let them produce as much, don't let them do this until they meet that quota. And I think that if Jim Marshall had been the kind of person like another, who I am obviously not going to name, person about quotas, that company said we will make sure that there are 30% native people in our operation and someone said, "Yes, 30% is a good target". So what they did was they just simply, this is true, you are going to laugh at this but it's exactly true, they hired 30% native people. They brought an Atco trailer up from down South. They put it on the side, put a radio in there and some cards and some TV's and the native people sat in there and didn't do a bloody stick of work, but they had them on the payroll. And that's the quota system.

P. SCOTT: That's a lot of crap too. I say it's a lot of crap because if a company has as sick an attitude as that, to try and play a game with both the people and the Government of the Northwest Territories in trying to establish quota to create opportunities for northern native residents, then they aren't sincere and be damned with them. We don't need them.

ANSWER: Oh, I agree with you. I agree with you about your comment about the company and what kind of company it is, but that's the kind of thing that happens when you say quota. We would rather, if it's going to be a number, we'd rather have a target but what happens when you reach your quota? Do you all of a sudden sit back as say, "That's great, I've reached my quota"?

P. SCOTT: Alright, you've used the term Target. That becomes a semantic situation as far as I'm concerned. The point is if the company didn't have an objective to reach, then we probably wouldn't have gotten 26%.

ANSWER: Well, there was no quota in the Polaris operation and we've got someone from Polaris here, and what's your percentage of labour?

D. BERGEN: Looking at it right now, looking back from inception, the number of people we've had, looking at Inuits and natives, we've run about 16% and to get up to a total of 25% of our total work force have been from the North and that's split about 15-16 have been Inuit and natives and the rest have been those like myself hired out of the North and working there.

D. NUTTER: I'll just interject one more time here. I think we've written off coffee break. It seems a lot of people want to continue talking so we'll just keep on going. Also in the interest of not having it go on until 6:00 tonight, I'd like to put some order into it and I did say Bob Shank would be next. I'll also like to try going once around the table to see if people want to say something. It may cut off quick response to points made but by just allowing the next person to jump in, it displaces persons who want to say something. So we will start at Bob here and go around the table.

B. SHANK: Bob Shank, EMR. I've been listening to your proposal on schooling. Now there are a number of schools in the country that have technical courses geared to supplying trained people for the industry, all the way from trained miners at the skilled level, to trained technicians at the technical level, and even some of them on at the engineering level too.

In listening to your own interpretation of what this might be, it appears you are still in a very preliminary form of planning this. I would make the suggestion to you it might help to visit some of the schools that are in existence; Lakehead Tech, the one down in Vancouver, Haileybury and the one at Sudbury. Now some of them have a rather unique setup. Haileybury has and I'm not sure about Cambrian at Sudbury, whether they have carried on with it but I know what their planning was, and there are a few other universities, I guess one in Alaska, that have underground mines in connection with their schools.

People get a chance to work on modern equipment. They get a company to supply a piece of equipment, LHD, a jumbo, whatever is needed, and the students get a chance to spend part of their time down their learning to handle big equipment. They have somebody else that learns to maintain the equipment. They might run a course on diamond drilling right there at the mine or say on surface. You could do surface drilling, underground drilling or whatever.

These have been well thought out, well planned, and they can lead to a certification type of program if you so wish. You could train people, of course, on ventilation, installing ventilation pipe, on drilling, blasting, advancing the headings, all kinds of possibities there, and then people have one leg up in trying to get a job in the industry. So I throw this one out to you. I think it's something you should look at.

B. CARR: Just a very quick response. I have visited Haileybury. I've been to the operation at Flin Flon, Hudson Bay Mining & Smelting. I've been to the training site and the training mine at Falconbridge and I've been to the one in B.C. that is now closed for underground mining, and we've sent people and we've used Haileybury and we've used the Falconbridge Certified Underground Hardrock Mining Course. We've done these kind of things and we'll do it again. Thank you.

R. SHANK: That's good. At Sudbury, of course, there is the Big Nickel and they were going to use this in combination with Cambrian to train people on that job, but since things got a little bad around Sudbury, I don't know whether that's being continued. But it was also a tourist attraction. They had it right there in town. It attracted a lot of people. They could see this great big nickel up on the hillside and people could go underground and it was a combination of things.

G. SMITH: Gordon Smith from Aklavik. I guess one of the comments that I'd like to make it diverted from the mining industry particularly a little bit, but nevertheless it might be a consideration when contracts are let through the bid process, and I'll give you a specific example, that not too long ago there were some renovations came about for the installation of carpet, a technical skilled kind of a job to do. Nobody in the Northwest Territories was able to do that. Labour came from Edmonton and yet there was no part of the contract that specified in there for training. It might be the case that contracts that are let through the Department of Education have some input so that some dollars are allocated for the training of people for a job as simple as installing a carpet.

Now that doesn't say much for the mining industry, but I don't think the mining industry is the scapegoat here if we are all looking at the mining industry, because you cannot expect somebody to become a metalurgical engineer or a mining engineer if he doesn't have the basic reading, writing and other skills, technically speaking, in order to graduate to a more sophisticated area. So until we get that infrastructure from the educational standpoint of view in place, then you can't expect to employ people at the level that some of the mining people are talking about in order to have people resident here in the Northwest Territories, when we are not even prepared to look at some of the minor skills in other industries if we are not prepared to put that into bid proposals at the outset. And I think it's an area that should be considered regardless of what industry you are looking at and maybe that's a way of the mining people saying that it's a good suggestion and lets them off the hook at little bit as well.

D. NUTTER: If we can just continue around then we'll end up at this end of the table. Any other questions? I would like to conclude this in about five minutes. We have several more speakers to come.

D. SANDERCOCK: Yes, Don Sandercock from Inuvik. I just wanted to say that it looks like we've got a little bit of a communication problem between the three parties involved, the three parties being the mining industry, the second one is the education, and the third one is the invidivual workers. There seems to be no communication here because we are all saying, well why didn't you guys tell me, or why don't you guys tell me, or why don't you set up this program, or whatever. So I think just to improve that communication, I don't think we have to go through and try and justify everybody's position. The natives or the northerners want jobs, the industry wants to stay in the Northwest Territories for whatever reason, the Department of Education wants to help people whether they are northern or southern or whatever. They all want to help. So I think if we look at it from a positive vein, we've got to increase that communication.

I must remind the Department of Education, they use the rotational system as well. Where the industry rotates people from south to north, if you want to get an education in the management, professional or high technical places there, the students are, of course, rotated down south for a period of time, and maybe the Department of Education should look at reducing that rotation. I know specifically in Inuvik, prior to the inauguration of Arctic College there, in fact even on the management levels, they still do the rotational. Anybody who wants to become a university graduate can't do that in the Northwest Territories and especially when you start getting into very technical education that's required in a specific industry.

But we also have to look at the onus of the individual, and I don't think we are looking at a group like natives. When I look at Inuvik and the Mackenzie Delta, we look at these problems and we try and support any individual who wants to go and increase their education. As a matter of fact, we try and help them, but the initiative has got to come from them. We can only lead that horse to water, we can't make him drink, and so we've got to try and educate that person and try to tell him that the opportunities are available through industry, the opportunities are available through the systems in education whether NWT or down south, but they themselves have to take the initiative as well. And I don't think we've really addressed that part of it. We're trying to give everything on a silver plate to the natives or northerners or whatever. We have that problem up in the Delta and we're addressing it and, like the mining industry, it's not a one or two year commitment, it's a 10 or 45 year commitment. Thank you.

P. SCOTT: I'll take the mike once more and then I'll shut up. Just to follow up on those comments. I think it's very true that there is an incredible need for the education system to deal with how they are educating the young people in the North because statistically, at the community level, grade 7 is the maximum level of education on the average. There are indredible drop-out rates after grade 7. It's amazing nosedives and I think until the problems in the education system are addressed we won't be able to deal with employment problems for the young people. We can't expect industry to pick up when 5, 6, 7 years later the person realizes they need training for an opportunity at employment. It has to be addressed much sooner in their lives and that's part of the real difficulty we face.

D. NUTTER: We're back to the front here. Gordon first.

G. NORBER: Your comment about leading the horse to water. We are trying to, and again I go back to the requirement for advice from this group and from other sources, of providing that water. We have to get it in place, we recognize that. It's a plan of ours to get it going this year, a whole information package on the industry and you have to recognize that mining isn't the only one. We are looking at, from our point of view, a host of other employers. But we recognize that we need to do a lot better job, we have to do a better job, in getting the information out on what the industry is about, not only in terms of employment and training, but just what is mining, the whole scope. We recognize that and we are hoping to address that through ourselves and through the E.D.A. Agreement. Some day we may have the trough full.

B. CARR: Just a couple of comments. I'm rather stimulated by the conversation and the comments. It's good to get some feedback from the industry and from the native people who are participating. I'll say something about the contract which is a very good point. I'm not trying to duck the question or the issue, but it's a fact of life that even for the Department of Education, when we are going into the building of schools, it's the Department of Public Works that handles the contracting, the tendering, the design stages. We tell them what we would like in terms of classrooms and so on, but it's the Department of Public Works.

Now they are really doing a lot better on this whole issue of what is included and what should not be included in a contract with regards to employment and training and recently we've just seen the Defence Construction Limited of the Federal Government write into their contracts for the North Warning System for construction and for operations and maintenance of those contracts, a requirement to provide some kind of, maybe not a requirement to provide training, but a requirement to state what you intend to do and how you intend to do it and why you are not going to do the training for native people or northerners. So it's starting to get there and it's a very difficult nut to crack. There are strong regulations under Canadian law about what you can and cannot do in contracts.

In terms of sending students south, yes, we are not lily white on any of this in terms of a northern presence and I agree with you. But someone, I think it was from Polaris, mentioned the tax bite, you know, why are you spending our tax dollars doing certain things, and that's where the crunch comes from. That's where the hard nose comes, because if we insist on spending $300 or $400 to train two students in one discipline through the college system when we could buy that particular training for $30, we'd be under some fire. I think our politicians worry about how we are using our tax dollars and I know right now we train, sorry, 40% of our apprentices go to an institution in Southern Canada, the majority to Alberta. We buy the training from Alberta, so we are not lily white in that question and it does comes down to a, I'm sure the question that John Zigarlick is facing, an economy of scale and the bottom line is the responsible spending of money, whether it's board of directors and shareholders or whether it's tax dollars.

We have a position that says we think it could be done a better way with this question, but you are quite right in the need for the education system to look at what we do and how we educate our young people. Again, the comment is a very valid one from Pat. It really is because you know, examples. A young person from Trout Lake, when they get to grade 7, they've got an option; drop out or step out and leave Trout Lake and go somewhere else to continue your education. I mean that's a hell of a choice. But in terms of what we are doing about it and in terms of what successes we've had over the last five years since the Special Committee on

Education met, I would recommend to Pat that he either drops down to my office or gets ahold of very recent, hot off the press publication by our Minister, Dennis Patterson, and it's called "A Report Card" and it does detail in some terms of progress what we have accomplished since that time.

G. NORBER: We've come a long way since a lot of us went from grade 1 right through to grade 12 in the hostel system to where we are even providing at least a grade 7 in every community. You have to place some of this in perspective. Granted we've got a long way to go. I can remember the days when I was in the hostel system with some of my friends, from the day they were six years old not seeing their parents until they graduated grade 12.

D. NUTTER: First off, I should thank all of you for getting some good life into this afternoon. I appreciate all of the discussion. I think all of us appreciate the discussion. I thank Brian Carr and Gordon Norber for sitting up here with me and giving as much time as they have to this discussion. What I'd like to do right now, as I said we've given away the opportunity for a coffee break. I'd like to move on to our final two speakers who will talk about some examples; one an Alaskan example, and one more on the NWT example of native groups being involved in the mining industry. Then what I'd like to do, following those two speakers, is take a very short break because the last part of this session is supposed to consist of myself and Gilles Patenaude giving some closing remarks. I'd like about five minutes to think about what those might be.

THE ROLE OF ALASKA NATIVE CORPORATIONS IN MINERAL DEVELOPMENT

D. Spilde
Nerco Con Mine Ltd.

D. NUTTER: But I'd ask Darrell Spilde to come up to the front now and give us a bit of an introduction or overview from his experience, having just come from Alaska, and his experience in native involvement in the mining industry in Alaska. I also failed in the introduction of Darrel. He is just new to Yellowknife, as I say from Alaska, and has come to Yellowknife with the Nerco Minerals Corporation to be Manager and Vice-President of the Con Operations at Nerco.

D. SPILDE: Thank you. I'm going to see if I can keep this noncontroversial to keep the time down here. I'd like to just briefly review the origins of the Alaskan native corporations and how the business has come together in Alaska, because it has been a very interesting, I think, experiment for the Alaskans and particularly for the Alaskan native corporations.

Statehood was granted to Alaska from the U.S. Federal Government in 1958 and at that time 102 million acres of land were granted to the State. And as the State began to make its land selections, there were a number of conflicts that developed with the native groups, especially over lands that were surrounding the native villages. So these conflicts prompted a ten year effort by the Alaska Federation of Natives to lobby the U.S. Congress for a comprehensive land settlement which was an effort that eventually proved successful.

In 1971, the Alaska Native Settlement Act was passed by Congress. This Act was unique in that lands and funds were placed in 13 native corporate entities owned by native shareholders rather than putting the power to the tribal governments. Nearly 44 million acres and $1 billion were conveyed to the native corporations. The original tenet of the native groups was to secure a land base for its people rather than building corporate empires. However, much of the land selection was made on the basis of mineral potential in order to augment regional economic basis by providing jobs and income.

Under the Act, local native villages received title to the surface estate of 22 million acres. The regional corporations received title to the subsurface estate of the village lands and the surface and subsurface title to an additional 16 million acres. Subsurface title was also granted for an additional 2 million acres of special purpose lands.

At the end of 1986, 34.8 million acres have been formally conveyed to the regional corporations by the Federal Government. This represents about 79% of the original 44 million acres under the Act. Because one of the primary criterion in land selection used by the native corporations was known or inferred mineral potentials, a number of major mineral deposits are located on native lands. Most of the native corporations support responsible mineral development of their lands.

Mining companies wishing to develop minerals on native lands deal with the native corporations much the same way as they deal with any other private land owners. In Alaska, the Bureau of Indian Affairs does not get involved in mineral transactions thereby eliminating the Federal Government's intervention on the basis of trust lands. Local State and Federal Governments do, however, become involved in the various permitting requirements of a mining project and, in some cases, local governments have developed more stringent restrictive protections relating to development than the State and Federal Governments.

Many of the native corporations are involved in broad based mineral exploration agreements, participating joint ventures and specific projects, and secondary activities in support of mining and exploration. A few examples will reflect the spectrum of the attitudes and approaches which are in Alaska at this time.

The first one I'd like to talk a little bit about is the Aleut Corporation. The Aleut Corporation has rights to 1.4 million acres of subsurface estate in the lower Alaska Peninsula and the Aleutian Islands. Much of this property has excellent mineral potential. The native corporation has entered into exploration agreements with several major mining companies, including our own, to explore these lands for economic mineralization. Current exploration targets include gold, silver, porphyry copper and other base metals deposits. But while there are some very interesting prospects, there have been no operating mines developed to date.

The Cook Inlet Region Inc. controls over 1 million acres of land with significant mineral potential. Over the past decade, this native corporation has entered into exploration agreements with several large companies, including our own subsidiary Resource Associates of Alaska. These agreements typically require a certain amount of annual exploration expenditures and include a royalty provision should a mine be developed.

The Cook Inlet Regional Corporation recently acquired the mineral holdings of Annaconda and is proceeding with an exploration program on their own of the Johnson Creek Prospect which is a gold/zinc deposit on the west side of Cook Inlet.

The Doyon Limited is a native corporation that represents the interior of Alaska and they will eventually control about 12 million acres, including some extremely attractive mineralized lands. The native corporation has been active in minerals exploration, including joint venture participation with several mining companies. The current targets include lead, zinc, gold, silver, porphyry copper, molly, tin, tungsten, mercury, antimony and coal. Doyon representatives I think did recently visit Canada seeking joint venture partners to explore many of these prospects.

Another native corporation, the Calista Corporation, controls 7 million acres in southwestern Alaska. Prior to selecting their lands, the corporation conducted a three year mineral inventory to identify lands with mineral resource potential. As a result, the corporation has selected lands with excellent potential for precious and base metals. During the past two years, Calista has fielded its own exploration program with some encouraging results. However, additional exploration work will be required to determine if these prospects have economic potential.

I've saved the best example perhaps for the last, and that's the Northwest Alaska Native Corporation, otherwise known as N.A.N.A. N.A.N.A. is the owner of the Red Dog Prospect which probably most of you have heard about, which is the largest undeveloped zinc deposit in the world. This prospect is located about 120 miles north of the Arctic Circle and about 60 miles from Tidewater. N.A.N.A. is in a joint venture with Cominco. They estimate that there are 85 million tons of proven reserves grading 17% zinc, 5% lead, and 1.4 ounces of silver per ton. Production is scheduled for early 1991.

I think the history of this project is very interesting. In 1970, N.A.N.A.'s shareholders twice voted against encouraging mining in the region mostly because of environmental concerns and subsistence issues, but in 1979, the shareholders reversed earlier decisions and voted overwhelmingly in favour of pursuing potential mining development. The prospect of jobs provided the essential catalyst which changed the attitudes of the N.A.N.A. shareholders.

The Red Dog Property was deeded to N.A.N.A. in 1980 as part of the Alaska National Interest Lands Act. Shortly thereafter, N.A.N.A. began negotiations with Cominco and other companies to develop the property. Cominco was eventually selected based on previous experience in the Arctic and financial considerations.

I'd like to touch briefly on the six provisions in the agreement between N.A.N.A. and Cominco which may be of interest to this group. I am by no means an expert on this and I know there are Cominco people here, so this is just a very brief summary.

The first one, a very important provision I believe, was a local hire provision which states that over 50% of the work force on the development project have been N.A.N.A. shareholders. The goal was to have the operating mine employed entirely by N.A.N.A.

Under the management, a Management Committee has been formed with six N.A.N.A. representatives and six Cominco representatives. The N.A.N.A. representatives will play a key role on the subsistence issues, employment and exploration. In addition, a separate Subsistence Advisory Committee has been formed to advise the management group specifically on subsistence issues.

On communications, Cominco has agreed to visit N.A.N.A. villages once per year to discuss the project in order to keep N.A.N.A. shareholders informed.

And in services, N.A.N.A. has a contract preference rights to provide certain services such as drilling, food and materials.

Under housing, N.A.N.A. does not want permanent settlements established at the proposed minesite or the port, so the work force will be on a rotational basis similar to the procedure used on the North Slope oilfields. This provision will fulfill N.A.N.A.'s desire not to substantially increase the population in the region.

On suspension of operations, there is a rather interesting provision in which N.A.N.A. has the authority to suspend operations if subsistence problems created by the mine are not resolved to the mutual satisfaction of both partners.

In conclusion, as major landlords, native corporations in the North are key entities for the future of the mineral industry. Native corporations will exert their influence not only through their direct in-holdings but also through the leverage which can be exercised regarding access to other mineral regions and properties. In Alaska, the desires of the native people are important and can be accommodated in mining joint venture projects. These desires, of course, must be balanced with the current economic realties of the North American mining industry. However, together, the mining companies and the native corporations can learn and are learning from each other and are developing the necessary skills to succeed in the minerals business during the late 1980's and beyond.

D. NUTTER: Thank you very much Darrell. I think we have a bit of time if any people have any questions they'd like to ask about the Alaskan example. To wrap it up, we have, as I say, our born in the North example of a native organization attempting to get involved and getting involved in the mineral industry and that's Ghost Lake Resources and I believe that Charlie Charlo is going to speak to us.

THE GHOST LAKE RESOURCES EXPERIENCE

C. Charlo, Ghost Lake Resources Ltd.
E. Erasmus, Dogrib Regional Council
G. Jaeb, Denedeh Development Corporation

C. CHARLO: This afternoon, instead of making a presentation all by myself, I have invited another two speakers. One speaker is Executive Director of the Dogrib Tribal Council, Eddy Erasmus. Another speaker is the General Manager of Denendeh Development Corporation, Gary Jaeb. So our first speaker will be Eddy Erasmus, and he will talk on behalf of the Dogrib Trival Council and then I will be speaking how and why the Ghost Lake Resources has been formed, and the third speaker, Gary, will speak on the Ghost Lake properties.

E. ERASMUS: My name is Eddy Erasmus. I'm the Executive Director of the Dogrib Tribal Council. Rae has a population of about 1,600 people. It's the largest native community in the Northwest Territories. It's outlying communities of Lac La Martre, Rae Lakes, Snare Lakes, Rainbow Valley and Detah, total Dogrib population close to 3,000 people. And employment in these communities is very, very low. People still do a lot of hunting and trapping and some of the areas where these developments and mining industries are taking place are in the areas where the people do their hunting and trapping and I thought that this native participation in mining would be held in a native community, but that is not so.

The other thing is that we have not been approached by any mining industries as to what they are doing, where they are going to develop, and they are developing on our land that we are now presently negotiating with the Federal Government and we are not getting anything out of it. I thought native participation in this seminar was something along the line where the native, how can we participate?

They are developing on the land at our back door and we are not getting anything out of it. And I hear some speakers were saying, "You want to participate? Sure, put in your money and you can participate." We want to get involved in mining with mining industries. The chiefs in my region, six of them, two chiefs, four sub-chiefs and a full tribal council, 15 delegates, are saying that if we don't get involved now it will be very difficult to cooperate with the mining industries.

We are talking about getting involved not only in pick and shovels but in ownership. There were times when native people are getting very frustrated back in early years, the latter part of thirties, maybe early part of forties. There was one old man who found this good rock and showed it to this one prospector. All he got out of that was a stove and a couple of stovepipes. Things like that we have to put up with up to today. So by saying that we want to get involved, we would like to be involved in mining industries. We have Ghost Lake that Charlie and Gary will talk about.

D. NUTTER: Thank you Eddy.

C. CHARLO: My name is Charlie Charlo. I'm the President of Ghost Lake. I'd just like to elaborate on how and why the Ghost Lake was formed. When the Mackenzie Pipeline topic was hot, our organization tried to get a contract on the different projects but the distance would not allow us because it cost too much, so our leaders got together and said there's no major industry in this area and we can't get the contract with the pipeline, why don't we start to go into mining? So this Ghost Lake company has not happened overnight. We talked about it for the last ten years, just only the last four years we started forming this company.

So, at this point, I personally believe that between three parties; the government, mining companies and native organizations should sit down together and clear the communications and relationship and then, once this is solved, we should start talking about training our people to work in mining and then we should start talking about jobs. I think, at this time, Ghost Lake is not interested in jobs or training, but we are interested in joint venture, ownership, we would like to work with the other mining companies, and we would like to get all information that's available from the government.

We are not far. There are a lot of explorations going on behind our back door, the people have not consulted with us, never sat down with us. We are not far away. We are close to Yellowknife. We are largest native community in Northwest Territories. We are on the highway and we will welcome you if you plan to sit with us and share with us all your information and we will welcome everyone. Thank you.

G. JAEB: Okay, it's my turn. Just to talk more specifically about Ghost Lake Resources. As Charlie was saying, the company was formed at the time the pipeline project was happening and within this area the leadership decided we should try and establish a vehicle to get involved in the mining industry. So after a lot of consultation, we decided to structure a company that could go public to raise money on the stock exchange. The reasons being I think, and some of the speakers earlier in this conference talked about them, but the high risk nature of exploration would make it difficult I think for any native corporation to commit land claims money or those types of resources to an exploration program.

So we were looking for a vehicle that would allow us to raise money through the speculative markets and as both Charlie and Eddy have talked, with a view to becoming involved in ownership.

This whole process over the last four years has been some learning and some mistakes perhaps. Initially, when we started acquiring properties back in '83 we went a little overboard and we picked up about half a dozen properties and, as it turns out, all of them would have had some potential, but we didn't have the resources really to hold them or develop them so we've allowed three of them to lapse and we continue to hold three properties.

We've just concluded an option agreement with Noranda Explorations on a property that we acquired in the Russell Lake area which is in the same area that the people from Highwood Resources were talking about yesterday and close to the Cabin Lake property. It's not a rich option agreement but we do get some cash and some work commitment and I think one of the significant features of our arrangement with Noranda is that they, in turn, in spending exploration money on our property will hire us back to do the work that we can.

You'll have to excuse me if I'm jumping around here a bit. I haven't prepared all that well for this but I wanted to mention that Ghost Lake Resources also provides services to the mining industry. We have done line cutting, staking and those sorts of things. Some of the other companies that are involved in the Rae area and with the Dogrib Tribal Council have, for an example, a trained firefighting labour force that operates out of five of the communities. I only mention that to illustrate that the communities have an organized, disciplined kind of approach to these services that we do provide and it's a bit disappointing that we aren't getting calls on more from the industry.

In any case, going back to our agreement with Noranda, I was saying that it's not only the cash and the work commitment, they are also hiring us back to provide the services that we can. So that's one of the features of that agreement.

We also hold a property on Allan Lake which is just east of Gordon Lake, about 15 miles from the end of the road at Tibbet Lake north of Yellowknife. The winter road runs by on Gordon Lake. We're about 10 miles from the old Camlaren Mine site. That particular property was worked on in the 1940's. It was the only Mindot Claim Group. We have spent about $40,000 of money that we've raised on developing a work program for that property and we are now at the stage of contemplating going to the public market to raise money to do further work on it.

And the other alternative that we are looking at first is the idea of perhaps optioning that property. So I'll just maybe mention at this point to any other native organizations attempting to go through the route we've gone that it's a very difficult one. We've looked at the public offering, public company as an avenue for raising exploration money, but we also have learned a bit about the responsibilities that go with that, the market maintenance, the paper work that's involved in maintaining a public company, is perhaps a disincentive to go tnat route. And just the point I am making is that we would prefer to joint venture or option the Allan Lake property at this time. Failing that, we'll look at a public offering.

The third property we hold is in the same volcanic belt at the Allan Lake property but it's further north on Brown Lake. It's a property that actually had some prior work done on it by our Member of Parliament, Mr. Nickerson. So we are intending to hold that.

Again, I'm jumping back on a different topic. It might be of interest to people that Ghost Lake Resources started off by selling shares to the Band Council which represents the four communities that Eddy mentioned. Some of the subsidiary companies to the Dogrib Tribal Council also acquired shares and then we sold shares to a group of insiders and we've raised about $100,000 in the last 2½ or 3 years and it is those monies that we've used to do the development work on the Allan Lake property and also in acquiring property staking and buying some of them.

I guess we'll get to some point here where we can attempt to answer questions, but I just wanted to make a couple of general comments. One is that throughout this whole learning process that we've been through there hasn't been a government program that has been designed to actually support the kind of thing that we are doing and I know that Alex Beaulieu was involved in some mining properties, attempted to access government support without success and I was actually glad to hear Jim Williams from the N.E.D.P. state that his minister has just announced that the N.E.D.P. may be able to contribute to property development.

We had several years ago talked to the people from Indian Minerals West and at that time they required a year advance request and were basically designed to work on reserve systems in the South. I'm glad to hear that they are coming North. Perhaps this is another avenue that will be available to us. So I'd like to encourage the government people that are here, as Dave said one of the purposes of the conference is to perhaps come up with some recommendations, but I think government would really be doing the native corporations and the industry a service if they looked at ways of providing incentives to small startup groups like ourselves, or perhaps some others, to get involved in mining.

And to the industry, I say our organizations take a business-like approach. When we provide a service to a company like Noranda, we fully expect that we don't get paid until the job is done to their satisfaction. I mentioned earlier that we try to apply the same kind of discipline to our work as we have to our firefighting operations and an airline charter company that we are involved with. But there needs to be, I think, a certain amount of good will involved in this too.

I would think that for a group like Ghost Lake Resources to succeed and to do business with some of the more established mining companies that that should be good for everyone. And I think that more than just the services and perhaps some money that we may be able to bring to a joint venture, I think we can bring a certain sense of satisfaction. I think we probably know more about involving the native corporations than the average mining company does and what services are available through the native corporations, so I think we can bring something to a joint venture that should have value. So that's about all I have to say. Thank you.

Discussion:

D. NUTTER: Thanks you very much Gary. I would invite any questions or reaction from around the table to what Eddy and Charlie and Gary have had to say to us in the last few minutes. I won't make my comment now, go ahead.

J. DAY: John Day from Bosworth. It seems like you are following in the footsteps of the Alaskan native corporation. I do believe that there are a lot of people here with the expertise to assist you on that. Are you going to be approaching these people?

G. JAEB: I'd just like to say that I think one of the values of this kind of conference is the meeting of people and, in fact, I think maybe what you are getting at is that organizations like ours don't have the expertise. Other people have it. If we can develop this cooperation, it's really what a joint venture is all about. And I know Charlie and I have discussed this. We were hoping to actually meet with some of the people that we've met through this conference to talk about the possibility of working together. We are particularly interested in talking to Mr. Spilde from the Con Operation here. Did I talk to your point?

P. WITTE: I think what you people are doing is excellent because you are here in the area and nobody knows the Territories or this area better than you do. And certainly from a standpoint on talking on behalf of Neptune Resources, we certainly would like to see any submission, as far as properties that you have, services that you can provide. We are looking for people right now to do things. We certainly would like to know what kind of services you can provide and I think if I could make one suggestion it would be to get your name out, just even through some mailings, to a lot of the major mining companies and let them know what you are doing because our game, as far as Neptune is concerned, is not to do grassroots exploration it's to take properties that have already been staked by someone else and to option these properties and to do work and raise money and to do work on these properties.

And certainly we're here in the Territories now doing the Colomac Project and we certainly would look at anything else that anyone can bring to the table as far as a joint venture. And I think it's great that you're here and it was my first exposure to what you are doing and certainly as far as Neptune is concerned, we would welcome any submissions of properties.

G. SMITH: Gordon Smith from Aklavik. I wanted to clarify if the only funds that you received were the funds that you had issued like through the share structure, and you mentioned $100,000. Was that the initial funding that you had to get started with and maybe in relationship to some of the things that Peggy mentioned just a few minutes ago, have you submitted quotations to other mining properties and been turned down on them, or have you just not had submissions from a contractor bidding standpoint of view for your services company?

G. JAEG: On the first question, we did not receive any direct funding from government to start Ghost Lake Resources, so your question whether we had raised all this money through our insiders share offerings, that answer is yes. We raised all of that money internally. We did get approval for an E.D.A. grant to help us bring on some consultants, but as it turned out, the grant required that we would have had to match dollar for dollar and we decided that it wasn't going to add that much value to our company so we've since walked away from that. There was some indirect government support to the Rae Band initially, but the company itself has not received any direct government funding.

We have only talked briefly with a couple of companies about the option on the Allan Lake and Brown Lake properties. We're considering very seriously about going public, taking the company public, and attempting to access exploration money through flow-through shares and so we've brought that property with our own money up to a stage where we could do that. We also feel that we now have more information which should make it easier for us to approach companies for an option, so if we can strike the right kind of deal, we would option it, given the information we now have or we would have the alternative of going public. We haven't pursued that very aggressively and so I really don't suppose we could fault anyone for being where we're at. It's been part of our developmental process.

D. NUTTER: Yes, any further questions or comments? I guess what I was going to say initially and now I'm echoing what Peggy had to say, but speaking purely personally, when I became aware of Ghost Lake and whenever I become aware of any investment of time or money by northerners into the mining sector, I've really been happy to see it. I think that it works in, and I'm not just saying that because I think it's good for native people, I also think it's very good for the industry. So I'm being somewhat selfish when I say I'm happy to see it, but I think it's going to work in all of our best interests in the long term to have the two parties working closer together so that there is really not that distinction of two parties. Ghost Lake Resources is part of the mining industry and the mining industry includes in it northerners of all description. Perhaps if there are no further comments or questions we'll take a quick break. I'd like to sit down for a minute with the organizers.

Can we just wrap this up? First I'll just pass on a couple of messages. Pierre Laporte has given me a message that anyone wanting more information on Native Economic Development Programs, particularly in light of some of the presentations that were made mid-afternoon and some of the changes in these programs, if you leave you name on the list at the back, we'll make sure that the most recent information does get out to you on these programs.

Secondly, as I said at the beginning of this whole session, there will be transcripts put together of the entire session and I can't say specifically when they will be out but I understand it's the hope of D.I.A.N.D. that these transcripts will be out within a month, so let's just say that this spring we should expect to see these transcripts and hopefully it will be soon.

Further to that, Gilles has suggested to me that perhaps we should look at putting together a summary of what we consider to be the essential points that we've identified throughout the meeting, essential concerns that were raised and suggestions that have been put forward at this meeting. So that gets both of us off the hook of trying to summarize all of those suggestions and point right now, but I think even if we did, it would take even longer this afternoon and would probably open up the floor for more discussion which, on one hand is good, but secondly, perhaps we should have scheduled a third day to run through what we've talked about for the first two. We haven't done that so you'll have to wait until our version of the last two days comes out and then you can respond accordingly.

CONCLUSION

MODERATOR'S REVIEW OF DISCUSSION

D. Nutter

D. NUTTER: To give my wrap-up here, the two day seminar was called to investigate means of enhancing native participation in the mining industry. I guess there are essentially two ways for native participation, one of them being participation in a business sense, and it really isn't arms length, but let's just say as either investors, joint venture partners, or service companies supplying goods and services to the mining industry. And that is one way of becoming involved in the mining industry. Actually, there are several ways there, but I've gone and lumped it altogether.

The other way is through direct employment in the mining industry and while there has been a strong expression of interest in all of these means of being involved from people around the table, perhaps what sticks most in my mind has been the strong degree of interest from a number of people, and just based on our discussion this afternoon, a strong degree of interest in the employment aspect. Most everybody has an interest in jobs, has an interest either as employers or as people representing native communities and organizations, they have an interest in seeing more northerners, more native northerners employed in the mining industry. And as we've seen this afternoon, that got us into quite a lengthy and animated discussion and I think a valuable discussion.

I think that just in light of that, that may be reason to call for an additional meeting and I hope I don't get accused of that old government tactic of saying, "Well, we're going to form a study group now and look into this issue." But, again, given the degree of interest, we may well find that the Department of Education, working with the Chamber or on their own, would like to look further into this and set up future workshops would would bring again the three parties together of government, industry and northerners, native northerners specifically, to address this issue.

We talked through it in a lot of detail today but we sure didn't come up with any answers, and I think we are still some distance apart in understanding each other. But the most important think is I think that we've had a meeting such as this which, just through these discussions, helps us to better understand one another. Personally, I think the last two days have been a valuable experience for me, given a number of comments and suggestions that have been made by various people over the last two days, I can't agree with all of them and I have to admit that at this stage I am putting on my mining industry hat, but, on the other hand, I don't reject some of these ideas out of hand or some of the concepts.

I think that what's required is for the mining industry to better understand some of these concepts, but also for the mining industry to perhaps better articulate its own position and to better describe its industry so that the people outside the industry who have some of these ideas will perhaps better understand the implications, and I'm sure there is a meeting place. At this stage I don't think that any group has all of the answers, but through meetings such as this and getting into a ground round table and frank discussion, we can come to a resolution of some of the problems that we do have, the principle problem being the fact that there are very few native northerners engaged in the mining industry.

Communication is the key. I think that it's the only way we are going to understand each other. Brian Carr noted that each of the three groups that are represented here have their own priorities. There is an overlap of those priorities but they have individual concerns and I think that through this kind of discussion, we begin to better understand each other's priorities and concerns and constraints. The best way is again through these discussions rather than attacking one another behind each other's back or from, not across the room where the person can respond, but doing it across the country where there is really no opportunity to repond and fully understand.

Hearing Gary Jaeb just at the end here talking about the value of these sessions to him in meeting with people from the industry, I think, to me, is a measure of success of this sort of meeting. And I think at that ståge, I'll just wrap up and thank all of you for participating, thank all of you for dragging out some of those sessions because of a long discussion period after some of the presentations. I think it was well worth running overtime and missing a few coffee breaks.

And I'll turn it over now to Gilles Patenaude.

CLOSING REMARKS

G. V. Patenaude
Northern Affairs Program

G. PATENAUDE: Thank you Dave, lady and gentlemen. I'd like to pass on the best wishes of Commissioner John Parker who came in this afternoon for a little while to witness the proceeding and expressed his wishes to all. I see Arnold Enge still with us. Doug, from Echo Bay Mines seemed to be rather disturbed that he lost one of his good geologists to Northern Affairs. Those are the breaks.

I'd like to thank all of the participants. The native corporations certainly have shown a very singular interest in the proceedings and, hopefully, this might lead to increasing participation from northern development corporations in mining and its associated spinoffs. Many of the delegates have commented on the high calibre of our speakers and I wish to thank all the mining executives and government officials who have dedicated time and effort to present interesting and challenging ideas, and also, some of the private sector people too.

Many delegates and speakers have come from long distances to participate in the seminar and bring a very positive contribution to the proceedings. I would like to acknowledge the considerable efforts of Pierre LaPorte and Libby Big in organizing the seminar, finding space, accommodation, organizing schedules and this is no easy feat. I think they've done an excellent job. I'd like to thank Dave Nutter of the Chamber of Mines for an excellent job done as moderator. It's not easy to keep the action going in the intended direction, but I think Dave has done an expert job at it.

I would also like to thank Rick Puljerick who has been controlling all of us with his buttons and hopefully we'll be able to use his material to produce transcripts and have copies for all the participants.

On behalf of our Minister, Mr. McKnight, I'd like to give special thanks to the Honourable Tom Butters for his excellent message. I was certainly very impressed when he said, "Miners turn rocks into dollars". I was wondering whether the other shoe was going to drop and maybe say, "Then government spend those dollars", but anyway, it was a nice way for Mr. Butters to put it.

I'd also like to give thanks to Peter Hart and Wayne Wagner. I know they are not here at the moment but they've been of considerable assistance, as well as Allan Vaughan and the Department of Economic Development & Tourism, and Terry Foster.

Also, it's been very interesting I think to have, for what I believe is the first time, with us people from the Indian & Inuit Affairs Program Indian Minerals West and I think this may prove in the future to be very helpful to the native corporations and the native associations and native people of the Northwest Territories to have a look at the possibilities on the mining side.

Our major interest in organizing this seminar was to bring an awareness among the mining industry of what the native corporations' interests were in mining and an awareness among the native corporations of what mining is all about and how they could pursue this interest. We realized from the start that this was a tall order and we had to choose between a format for this seminar where only a few people attended and one particular subject only was discussed, or a format in which we could cover a wide number of subjects, hoping that some of the knowledge would rub off on all of us and form the foundation for further ongoing discussion and mutual contacts. We selected the latter alternative and I hope that everyone will profit by it.

I think we've been very fortunate to have the chance of meeting serious, dedicated native corporation representatives and also highly skilled mining executives. From this meeting, I believe we have a start in familiarization in which native people and mining people will feel more comfortable in approaching each other to seek solutions to each other's challenges. I certainly recommend very strongly that there be bilaterial communications between the native corporations and the mining industry and I'm sure that each other will be very pleased to communicate and discuss concerns and possible solutions.

Mining involvement for native northerners is a major challenge. Mr. Butters and Mr. McKnight are concerned about it and we hope that this seminar is the first step to increasing cooperation and involvement. I'd like to suggest, and Dave mentioned this, that from the meeting we might decide to form some kind of a steering group that might look into some of the issues, such as education, training, employment and business opportunities. We've all been seeking solutions and searching for them. Perhaps we can get closer to achieving them through this way.

This reminds me, there was somebody, I think it was Allan Vaughan mentioned one on one program that they have, reminds me of a story about mining. Prospectors normally, quite often are well known for searching continuously, they are always searching and very often not finding, and sometimes people have said that some of them are maybe even more interested in just looking, and I hope I'm not insulting anybody from the mining industry.

In any case the story is about this lady who goes to a store to look for some silk and when she walked in and said to the store owner, "I'd like to have 10 yards of silk". And he said, "Okay, I'll show you some. May I enquire Madame as to the purpose for this"? She said, "Okay, well, I want to make myself a nightgown just to be nice when my husband comes home. He's been away." He said, "Well, if I may offer a suggestion. Ten yards seems to be an awful lot, you don't really need that, you only need about two yards for a nightgown". She said, "Yes, but my husband's a prospector. He'd rather look for it than find it".

Dave Nutter has gone over the conclusions and some of the findings and the highlights of the seminar so I won't repeat them, but I'd like to repeat the offer that we've made in our office. If there are any questions, we of Northern Affairs, in geology or mining lands or economic development can assist you, and I'm sure the Territorial Government will have the same offer, and so will Dave at the Chamber of Mines.

So again, thank you to the delegates, the mining industry, the government officials, the native corporations, the Toronto Dominion Bank, and all those who participated to help us bring this seminar through.

D. NUTTER: That wraps it up.

Sound, recording and
transcript by:

Smitty's Secretarial Services
Yellowknife, NWT

APPENDIX A: AGENDA

Chairman/Moderator: D. Nutter
General Manager,
NWT Chamber of Mines

March 18, 1987

9:00 Welcoming Address
Honourable T. Butters, Minister responsible for Energy Mines & Resources Secretariat

9:20 Introduction
D. Nutter

Session No.1: Mining In Canada and the N.W.T.

9:30 Mineral Developments in Canada: Opportunities and Problems
R.H. Shank, Energy Mines & Resources, Ottawa
9:45 Discussion

9:50 Importance of Mining in the NWT
D. Nutter, Chamber of Mines, Yellowknife
10:10 Discussion

10:20 Coffee

10:45 Mineral Potential of the Western NWT
W.A. Padgham, N.A.P., Yellowknife
11:05 Discussion

11:15 Legislative and Regulatory Regime- Canada Mining Regulations/Coal Regulations
J. Hodgkinson, I.N.A.C., Ottawa
11:30 Discussion

11:40 Legislative and Regulatory Regime- Environmental Regulations
L. Hedberg, N.A.P., Yellowknife
11:55 Discussion

12:05 Lunch

Session No.2: Exploration and Development

13:30 Mineral Exploration and Development - Why, What and How?
P. Laporte, N.A.P., Yellowknife
13:50 Discussion

14:00 Mineral Development North of 60 - Special Problems
R. Douglas, Vancouver
14:15 Discussion

14:30 Development of the Thor Lake Deposit
D. Trueman, Highwood Resources Ltd, Calgary
14:45 Discussion

15:00 Coffee

15:30 Development of the Tom and Ptarmigan Properties
R. T. Trenaman, Treminco Resources Ltd., Vancouver
15:45 Discussion

16:00 The Colomac Project
M. K. Witte and R. Burns, Neptune Resources Corp Mississauga
16:15 Discussion

Session No.3: The Economics of Development

16:30 Options for Raising Capital
H. D. Drechsler, HDD Resource Consultants, Vancouver
16:45 Discussion

March 19/87

Session No.3: The Economics of Development (cont'd)

09:15 Project Evaluation and Assessment
J. Marshall, Strathcona Mineral Services, Toronto
09:30 Discussion

09:40 Special Aspects of Raising Capital in the N.W.T.
D. Portz, T.D. Bank, Yellowknife
09:55 Discussion

10:05 Coffee

Session No.4: Opportunities

10:30 Business Opportunities - Government Perspective
T. Foster, Economic Development, G.N.W.T.
10:50 Business Opportunities - Industry Perspective
L. Harder, Nerco Con Mine, Yellowknife
11:10 Discussion

11:30 Employment Opportunities
D. Willy, Echo Bay Mines, Edmonton
11:45 Discussion

12:00 Lunch

Session No.5: Government Support

13:15 G.N.W.T. Economic Development
A. Vaughan, Economic Development, G.N.W.T., Yellowknife
13:30 Discussion

13:40 Indian Minerals West
D. Alley, Indian Minerals West, Calgary
13:50 Indian and Inuit Affairs
P. Lee, I & I, Yellowknife
13:55 Department Regional Industrial Expansion
C. Yeo, DRIE, Yellowknife
14:05 Native Economic Development Program
J. Williams, NEDP, Ottawa
14:15 Discussion

14:30 Education and Training
B. Carr and G. Norber, Education, G.N.W.T., Yellowknife
14:45 Discussion

15:00 Coffee

Session No.6: Native Involvement

15:30 The Role of Alaska Native Corporations in Mineral Development
D. Spilde, Nerco Con Mine, Yellowknife
15:45 Discussion

16:00 The Ghost Lake Resources Experience
C. Charlo, Ghost Lake Resources, Rae
E. Erasmus, Dogrib Regional Council, Rae
G. Jaeb, Denedeh Development Corporation, Yellowknife
16:15 Discussion

16:30 Moderator's Review of Discussion
D. Nutter

16:45 Closing Remarks
G.V. Patenaude, N.A.P. Yellowknife

APPENDIX B: PARTICIPANTS

I- DELEGATES

Robert ALEXIS	FT. McPHERSON INC. BAND LTD	Ft. McPherson
Alex BEAULIEU	DENE B BAND	Yellowknife
Mike BEAULIEU	DENEDEH DEV. CORP.	Yellowknife
Raymond BEAVER	FITZ/SMITH NATIVE DEV. CORP.	Ft. Smith
Roy CHENARD	NUNI (YE) DEV. CORP.	Ft. Resolution
Ernie DANIELS	METIS DEV. CORP.	Yellowknife
John DAY	BOSWORTH CREEK ENTERPRISES	Norman Wells
Eddy ERASMUS	DOGRIB TRIBAL COUNCIL	Rae
Ernest FIRTH	FT. McPHERSON METIS DEV. CORP.	Ft. McPherson
Tony GRANDJAMBRE	FORT GOOD HOPE DEV. CORP	Ft. Good Hope
Garry JAEB	DENEDEH DEVELOPMENT CORP.	Yellowknife
Nick LAWSON	METIS ASSOCIATION OF NWT	Yellowknife
Tim LEE	KINGAUNMIUT LTD.	Bathurst Inlet
Maurice LENNIE	FT. NORMAN METIS ENTERPRISES	Ft. Norman
Doug LEONARD	METIS ASSOCIATION OF NWT	Yellowknife
Gary PALFREYMAN	FT. FRANKLIN DENE DEV. CORP	Ft. Franklin
Don SANDERCOCK	DENGII NATIVE CORP.	Inuvik
Patrick SCOTT	DEH CHO REGIONAL COUNCIL	Ft. Simpson
Gordon SMITH	AKLAVIK DEVELOPMENT CORP.	Aklavik

II - ATTENDEES

Robin AITKEN	DENE METIS NEGOTIATION SEC.	Yellowknife
Darcy ARDEN	DENE BAND	Yellowknife
Charlie BEAULIEU	DENE BAND	Yellowknife
Denis BERGEN	POLARIS MINE, COMINCO LTD.	Resolute
Arnold ENGE	NORTHERN AFFAIRS PROGRAM	Yellowknife
Joe ERASMUS	DENE BAND	Yellowknife
Walter GIBBINS	NORTHERN AFFAIRS PROGRAM	Yellowknife
Vicki GRANT	EMPLOYMENT & IMMIGRATION	Yellowknife
Ray GRIFFITH	NATIVE WOMEN'S TRAINING CENTRE	Yellowknife
Peter HART	ENERGY MINES & RESOURCES SEC.	Yellowknife
Gary JUNIPER	EDUCATION G.N.W.T.	Yellowknife
Frank LAFFERTY	DENE BAND	Yellowknife
James LAWRENCE	NATIVE PRESS	Yellowknife
Suzanne MOFFAT	CBC	Yellowknife
Dave MOLL	LAND USE PLANNING DIRECTORATE	Yellowknife
Louise NEILSEN	ECHO BAY MINES LTD.	Yellowknife
Wayne WAGNER	ENERGY MINES & RESOURCES SEC.	Yellowknife
Emma WALKER	LAND USE PLANNING DIRECTORATE	Yellowknife

III - SPEAKERS

Doug ALLEY	INDIAN MINERALS WEST	Calgary
Ross BURNS	NEPTUNE RESOURCES CORPORATION	Mississauga
Brian CARR	EDUCATION G.N.W.T.	Yellowknife
Charlie CHARLO	GHOST LAKE RESOURCES LTD.	Rae
Rod DOUGLAS		Vancouver
H. D. DRESCHLER	H.D.D. RESOURCE CONSULTANTS	Vancouver
Eddy ERASMUS	DOGRIB REGIONAL COUNCIL	Rae
Terry FOSTER	ECONOMIC DEV. & TOURISM,GNWT	Yellowknife
Leon HARDER	NERCO CON MINE LTD.	Yellowknife
Len HEDBERG	NORTHERN AFFAIRS PROGRAM	Yellowknife
John HODGKINSON	NORTHERN AFFAIRS PROGRAM	Ottawa
Garry JAEB	DENEDEH DEVELOPMENT CORP.	Yellowknife
Pierre LAPORTE	NORTHERN AFFAIRS PROGRAM	Yellowknife
Phil LEE	INDIAN & INUIT AFFAIRS	Yellowknife
Jim MARSHALL	STRATHCONA MINERAL SERVICES	Toronto
Gordon NORBER	EDUCATION, GNWT	Yellowknife
Dave NUTTER	CHAMBER OF MINES	Yellowknife
Bill PADGHAM	NORTHERN AFFAIRS PROGRAM	Yellowknife
Gilles PATENAUDE	NORTHERN AFFAIRS PROGRAM	Yellowknife
Don PORTZ	TORONTO DOMINION BANK	Yellowknife
Bob SHANK	ENERGY MINES & RESOURCES	Ottawa
Darrell SPILDE	NERCO CON MINE LTD.	Yellowknife
Rolly TRENAMAN	TREMINCO RESOURCES LTD.	Vancouver
Dave TRUEMAN	HIGHWOOD RESOURCES LTD.	Calgary
Alan VAUGHAN	ECONOMIC DEV. & TOURISM, GNWT	Yellowknife
Jim WILLIAMS	NATIVE ECONOMIC DEV. PROG.	Ottawa
Doug WILLY	ECHO BAY MINES LTD.	Edmonton
Peggy WITTE	NEPTUNE RESOURCES CORPORATION	Mississauga
Craig YEO	REGIONAL INDUSTRIAL EXPANSION	Yellowknife